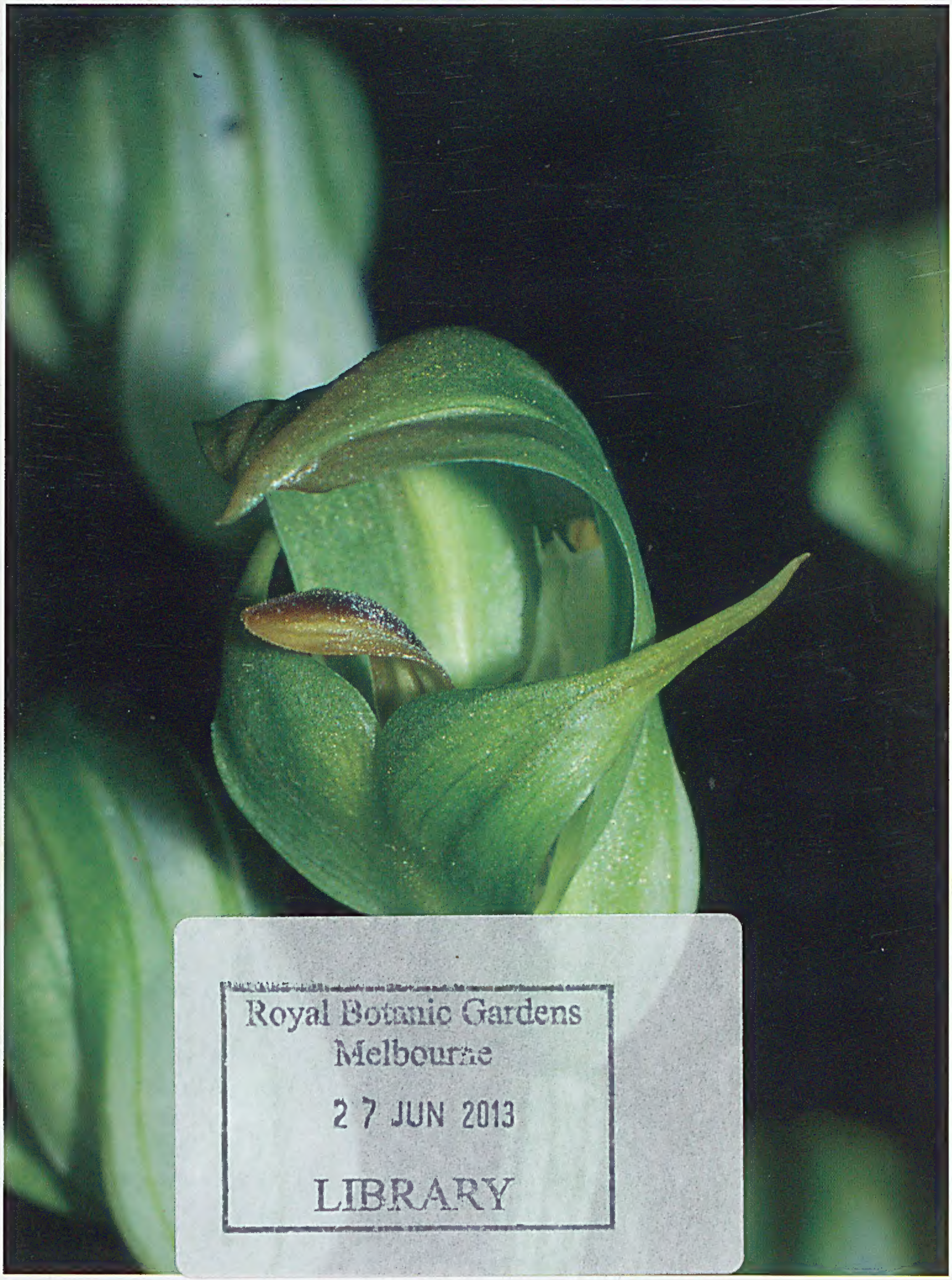
The Orchadian

Volume 17, Number 8 www.anos.org.au June 2013

Official Journal of the Australasian Native Orchid Society

Celebrating 50 years of cultivating, studying and promoting Australasian Orchids.



Royal Botanic Gardens
Melbourne
27 JUN 2013
LIBRARY

Pterostylis curta, photographed by Greg Steenbeeke at ANOS Warringah Show 2012.

The Orchadian

Official Journal of the Australasian Native Orchid Society Inc.
Founded August 1963
www.anos.org.au
Dedicated to the Study and Conservation of Australasian Native Orchids
Print Post Approved: 100000950, ISSN 0474-3342
Patron: David Cannon
June 2013 Volume 17 Number 8

CONTENTS

Editorial	Greg Steenbeeke	340
President's Report	Rick Winch	341
Hybrid Registrations—February—April 2013	RHS Registrar	347
2013 Speciosum Competition	John Zietsch	348
2013 Conference Update	Eddie Boudette	361
Shows—Events—Advices		381
Directory of ANOS Groups		382

ARTICLES

Central Coast Australasian Native Orchid Society *Sarcochilus* Show, October 2012	Jakob Wanner	342
A life with Australian Orchids	Ted Gregory	344
Dendrobium Beetle—Research Project and Members Input	Tony Clarke	350
Book Review: *A guide to* Dendrobium *of New Guinea*	Bill Lavarack	352
Orchid Conservation at Home	John Allen	354
The Unpredictability of Orchids	Alan Stephenson	362
ANOS, Then and Now; a journey across the benching tables	Gerry Walsh	364
Cryptostylis hunteriana in the Blue Mountains, NSW	David Banks	368
Vale Lester Ratcliffe (16 July 1925—31 December 2012)	David James	370
Corunastylis carecta (Orchidaceae: Diurideae), a new species from central-eastern New South Wales	David L. Jones & Lachlan M. Copeland	371
New Species of Papuan *Agrostophyllum* 6	Paul Ormerod	376

FIGURES

Pterostylis curta	Greg Steenbeeke	Cover
Sarcochilus Velvet 'White Tips' x *S. hartmannii* 'Bee Ess'	Rick Winch	341
Dendrobium Tweetie 'Pie'	Brian Gerhard	342
Sarcochilus Nicky's Twin Bees	Brian Gerhard	343
Sarcochilus Lenevans 'Harlequin'	Brian Gerhard	343
Dendrobium teretifolium (at the Royal Botanic Gardens, Sydney)	Greg Steenbeeke	344
Sarcochilus fitzgeraldii	Greg Steenbeeke	345
Sarcochilus Nabiac	Greg Steenbeeke	346
Dendrobium speciosum 'Sahara Gold'	John Zietsch	348
Dendrobium speciosum 'Windermere' x 'Daylight Moon'	Bill Dobson	349
Dendrobium speciosum 'Daylight Moon'	Greg Steenbeeke	349
Stethopachys formosa—*Dendrobium* beetle adult	Tony Clarke	351
Cover of *A Guide to* Dendrobium *of New Guinea*	Andre Schuiteman	352
Figure 1 - Small pump for double-skin lining	John Allen	355
Figure 2 - Bubble wrap applied to inside of hot house	John Allen	356
Figure 3 - A simple water-wall - water dripping over a hessian skirt	John Allen	357

Index continues on page 381

COUNCIL OF ANOS Inc.

President	Rick Winch
Vice-President	Tony Clarke
Secretary	Ernie Baldwin
Treasurer	A. Dave Groffen
Past President	Graham Slater

ANOS Councillors

Roslyn Capell	Trevor Porteous
Phil Ritchie	Sheryl Lawson
Mike Fish	Phillip Bunney

National Registrar of Judges

John Creeggan

Regional Registrars

Queensland	Trevor Porteous
New South Wales	Jim Lykos
Victoria	Peter Adams
South Australia	Les Nesbitt
Western Australia	Phil Bunney

Editor of *The Orchadian*

Greg Steenbeeke
orchadian@dodo.com.au

Royal Botanic Gardens
Melbourne
27 JUN 2013
LIBRARY

Membership Officer

Greg Steenbeeke

Membership enquiries should be directed to the Treasurer's e-mail: agroffen4@bigpond.com

Conservation Officer

Alan Stephenson (affine@tpg.com.au)

Ira Butler Chair

Peter Weston

Webmaster

Rick Winch
rickwinch@westnet.com.au

ANOS Correspondence

A.N.O.S. Inc.
PO Box 2088
Keperra QLD 4054

Subscription Rates (in AUD$)

Australia	$50
Asia/Pacific	$60
Rest of World	$70

Refer to www.auspost.com.au for application of international postage rates.

Copyright

Material in *The Orchadian* is subject to copyright and may not be reproduced without the express written permission of the author.

Submission of Articles

Items for consideration for publication should be submitted on disk or via e-mail to the editor, formatted for MS Word (.DOC, .DOCX, .RTF).

Good quality sharp illustrations or colour digital images should be submitted as separate files, with nominated location identified by place-holders in the text. Images of less than 3 megapixels should be avoided where possible. The editor is responsible for final selection of pictures.

Slides and prints can be submitted, with efforts made to return non-digital files after publication.

Editorial Guidelines, including *Instructions for Authors*, are available on the ANOS website.

The Orchadian is printed at the University of Wollongong.

ORCHIDACEOUS BOOKS

Specialist Supplier of fine orchid literature

Large selection of new and
pre-owned titles available.
Browse our website at your leisure

www.orchidaceousbooks.com.au

Or send for our catalogue.

Grahame and Margaret Muller
PO Box 4192, Tinana QLD 4850
Phone 07 4122 1251 Fax 07 4122 4539
Email: books@orchidaceousbooks.com.au

Advertising Costs per Four Issues, June—March

1/6 Page	$120
1/4 Page	$160
1/2 Page	$300

Space is available — Full Colour at no extra.

Please contact the Treasurer for further information

PO Box 2088 Keperra QLD 4054

or through the website

www.anos.org.au

Editorial

Welcome to winter 2013. I know for some it came with a bit of a blast. In Sydney we had a long run of warm, but dry weather right up until the end of April, and then even well into May, but the cooler weather has now settled in. For some of us this means very little—those lucky enough to live close to the coast and in the northern half of the continent see winter as a drier, sunny period. For many others though, it means taking steps to stop plants getting chilled and dying in the cold and damp conditions.

Being somewhat of a lull in the show season I can't provide much of a report for you on these—but the Central Coast *Sarcochilus* Show report provides an opportunity to see what is appearing around the clubs. Gerry Walsh, in his Fiftieth Anniversary article, provides a quick trip down memory lane to the days before the (at times gaudy) array of hybrids we see at most, if not every, club monthly meeting nowadays.

Ted Gregory also provides a trip through the heritage of the Australian Orchid Growing hobby, with his memoirs of growing in the Manning and Tambourine Mountain and how sometimes the threats for our hobby are ones we have no control over.

Alan Stephenson discusses how orchids are poorly considered in environmental assessment. Even when plants are identifiable year round they can still be poorly considered by people employed to assess environmental harm. David Banks provides an article to support Tony Rodgers' photographs of the sole leafless species in the genus , following its recent confirmation in the Blue Mountains—further from the coast than previously known and a support of what I thought I had found when as a teenager I was not far from where Tony found it.

I include the second of the three articles from the Australian Orchid Foundation. John Allen lives in the central west of NSW, but has many issues that we all have to consider when growing our favourite plants. With the evidence overwhelmingly showing that the climate has been disrupted, and with every indicator showing that the effect of humans is undeniable, we all should be considering conservation of orchids at home in a way to minimise the effects we have on the planet more generally. For all who are interested, the end of June is also the due date for this years essays (refer to the last issue for more details).

Bill Lavarack provides a synopsis of the recently published guide to dendrobiums of New Guinea by André Schuiteman, and this looks like a fine addition to a personal library.

One of the issues with shows—that of enough space or the ability to transport large plants— is in mind of those of us with many of the large *Dendrobium speciosum* complex plants. Mine are starting to show the developing racemes and (touch wood!) I will be in for a good year this year. Mid North Coast ANOS Group think they have a solution—and I urge you to get involved in the inaugural *Speciosum* Competition.

A call for members to be involved is also in the feedback on *Dendrobium* Beetle—see the article and fill out the feedback sheet included within.

Of great importance is the new Constitution which the Council worked away at to develop, and clarify, the roles and responsibilities of members, clubs, the council and the organisation as a whole. Its modernisation was necessary to remain in line with the incorporations legislation. A copy is included with every subscription, and it will be going to a vote for acceptance at the Conference.

Finally, this is the last issue you get if your membership lapses. The subscriptions for 2013-14 are due at the start of July, and while I thank those who have already taken the step of renewing, I would like to invite everyone else to do so also. Your support for the society is vital to seeing good advocacy and development of the hobby we love.

Greg Steenbeeke

President's Report

2013 is the 50th Anniversary of the Australasian Native Orchid Society and for this we can be grateful for the foresight of our founding members and those who followed to make this such a wonderful organisation.

If not for people like Bill Murdoch, Wal Upton, Leo Cady, Stephen Clemesha and Jim Scott getting together in 1963 to consider the formation of a native orchid society and to formulate a Constitution and gathering other, like-minded orchid growers to attend the Inaugural Meeting held at the YMCA in Sydney on the 6th July 1963, ANOS would never evolved, and we as a group can be thankful to those original attendees.

Since then, many other prominent members have held positions on the ANOS Committee and Council to further the objectives of ANOS and the expansion of groups throughout every State with the exception of Tasmania and the Northern Territory for this they must all be congratulated.

The first issue of the *Orchadian* was collated in September 1963 under the stewardship of Murray Corrigan (since made a Life Member) who held the position for many years. The difficult processing in those days is in stark contrast to today's computerised publishing.

This year the ANOS Annual General Meeting will be held in conjunction with the 7th ANOS Conference to be hosted by the ANOS Kabi Group in Brisbane. The hard working committee formed will no doubt produce a wonderful program of events not to be missed. Going on past conferences the 'bar' has been raised every time by previous hosts.

Having attended the ANOS Conference in 2004 hosted by the ANOS Macarthur Group and the 2010 Conference hosted by ANOS Newcastle Group, a great time is assured by all attending and I encourage all members to register.

This being my final report, my term of office as President of ANOS is completed at the 2013 AGM, I must thank each and every ANOS Committee Member and Councillor who have formed the Committees for their support. I encourage all ANOS Members to continue their support and canvas those friends who may have reservations in paying the fees to join this wonderful organisation by subscribing to the *Orchadian*.

It has been an honour to have served you as President.

In closing, you will find a copy of the proposed Constitution included with this issue of the *Orchadian*, I ask that you endorse it with your support at the AGM.

Kind Regards

Rick Winch, President

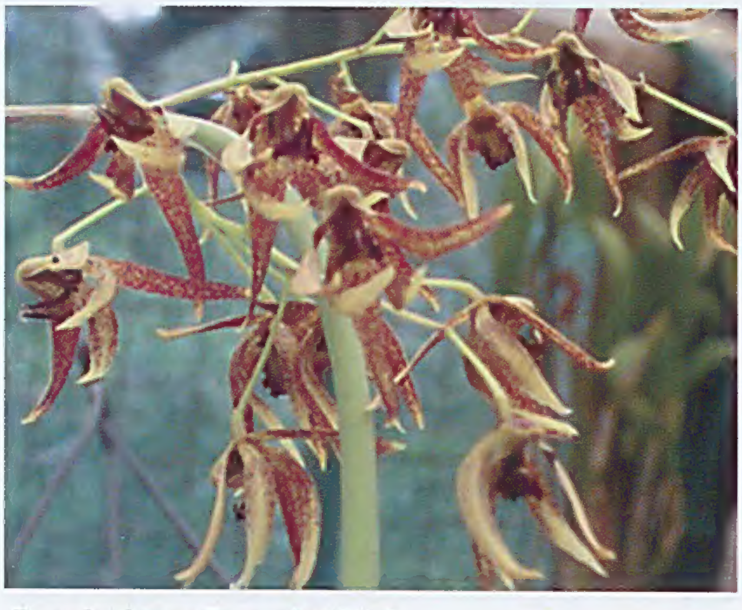
S. Velvet 'White Tips' x *S. hartmannii* 'Bee Ess'

Central Coast Australasian Native Orchid Society *Sarcochilus* Show, October 2012

This annual event is held at the Penrose nursery and aquarium in Erina adjacent to Erina Fair, on the beautiful central coast on 13th and 14th October. Two weeks before the show the nursery experienced a fire, which was fortunately not serious, but the smoke damage rendered part of the nursery unusable. The owner/manager Peter Rogers, totally undeterred by this, hired a magnificent marquee which was christened 'the Madonna Marquee". Those who were fortunate enough to attend enjoyed the magnificent display provided by the members of the society with their contribution of over 200 plants.

I would have to say that the crazy unpredictable weather we have been experiencing over the months prior to the event, certainly had a deleterious effect on the *Dendrobium* hybrids and kingianums. When one considers that one day it was 30°C plus and the next couple of days similar, then drops down to the mid to late teens Celsius. No plant is going to cope very well with this, and our native orchids are no exception. Thus the *Dendrobium* hybrids and kingianums were of little presence; even the dockrillias took a hit.

As stated, the overall display of benched plants was excellent. Our show marshal Callyn Farrell created a few extra classes to make it easier for the judging panel, which we always try to do. Callyn divided the first-flowered seedlings into two, one being the white, cream and yellow, the other any other colour. In addition, with the ever increasing emergence of hybrids using *Sarcochilus weinthallii*, a separate class was created as these are proving to be quite variable in size and their spectacular colour combinations.

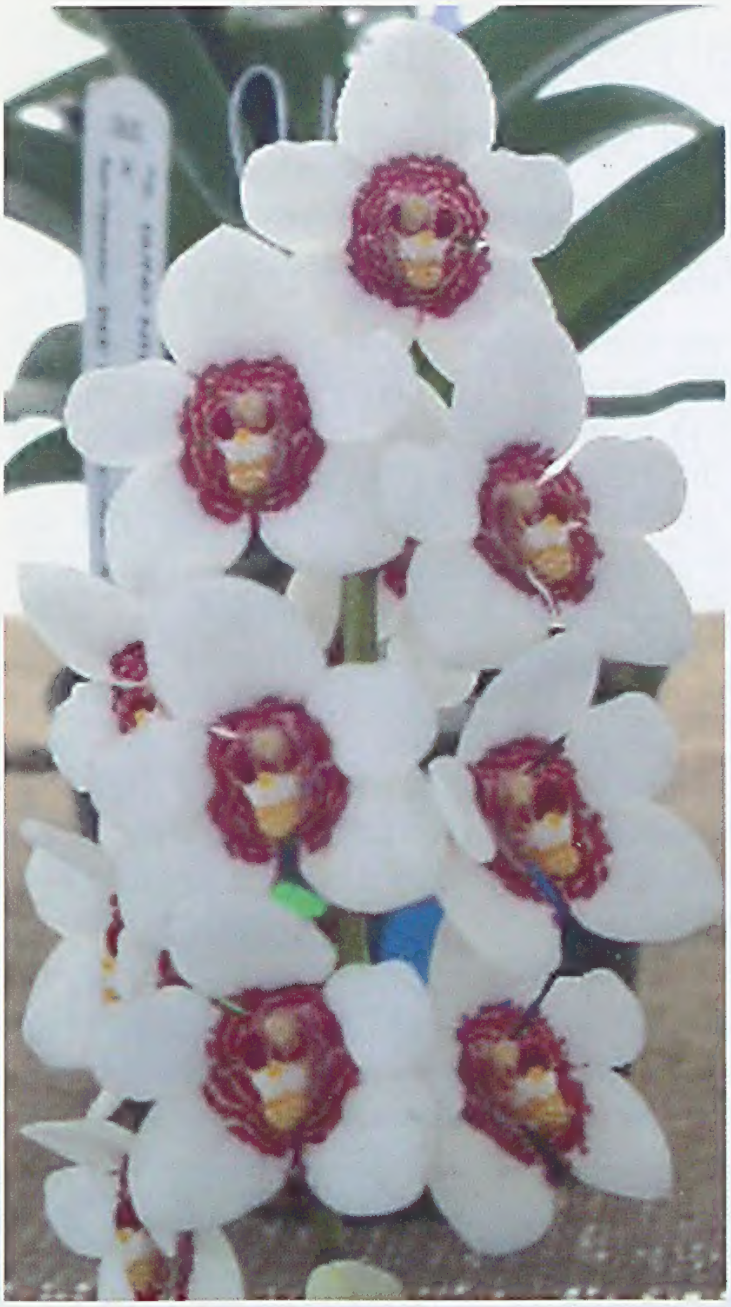


Dendrobium Tweetie 'Pie'

The Grand Champion was in fact an absolute cracker of a hybrid in *Sarcochilus* Lenevans 'Robust', bred and benched by Brian Gerhard of DUNO in this extra class. For those interested in the parents of this absolute stunner, they are *S.* Aussie Weinman x *S. hartmannii,* hence the name Brian registered was Lenevans, of course. Those of us who partake of a drop of the grape would realise the relevance. I've included a picture of *S.* Lenevans 'Harlequin', emphasising the influence of *S. weinthallii*.

Graham Young provided a large plant of a spectacularly flowered *Dockrillia linguiformis* to claim the Champion Species ribbon and it was awarded at a later show, and Neville Lee with a very well flowered *Dendrobium* Waverley the Champion Australasian (benched as Dockrillia x *foederatum* although the obvious presence of the New Guinea parent excludes it from this name). The first flowered seedling class of both species and hybrids saw the influence of the famous (or is it infamous) *S. hartmannii* 'Bee-Ess' HCC/AOC-ANOS. In the first-flowered species seedling class a cross between it and 'Yellow Snow' AD/ANOS, and in the first-flowered hybrid seedling a cross with *S.* Duno Nicky's Twin, which has been registered as *S.* Nicky's Twin Bees. The texture and shape shone through in both these, as well as others that were benched by Brian using *S. hartmannii* 'Bee-Ess'. The Champion Specimen went to a huge plant of Dockrillia Tweetie 'Pie' also grown by Brian.

The variety of colours, shapes & sizes of the flowers benched in the *Sarcochilus* hybrid



Sarcochilus Nicky's Twin Bees.

classes are of continuing amazement, and one would suggest that the breeding done by the likes of David Butler, Neville Roper, Ken Russell and Brian are definitely responsible for giving native orchid lovers a real wealth of colours and substance from which to choose. Colours such as browns, vivid reds, vibrant yellows, smoky oranges, sunset shades and purples were there to whet the appetite of even the most experienced growers.

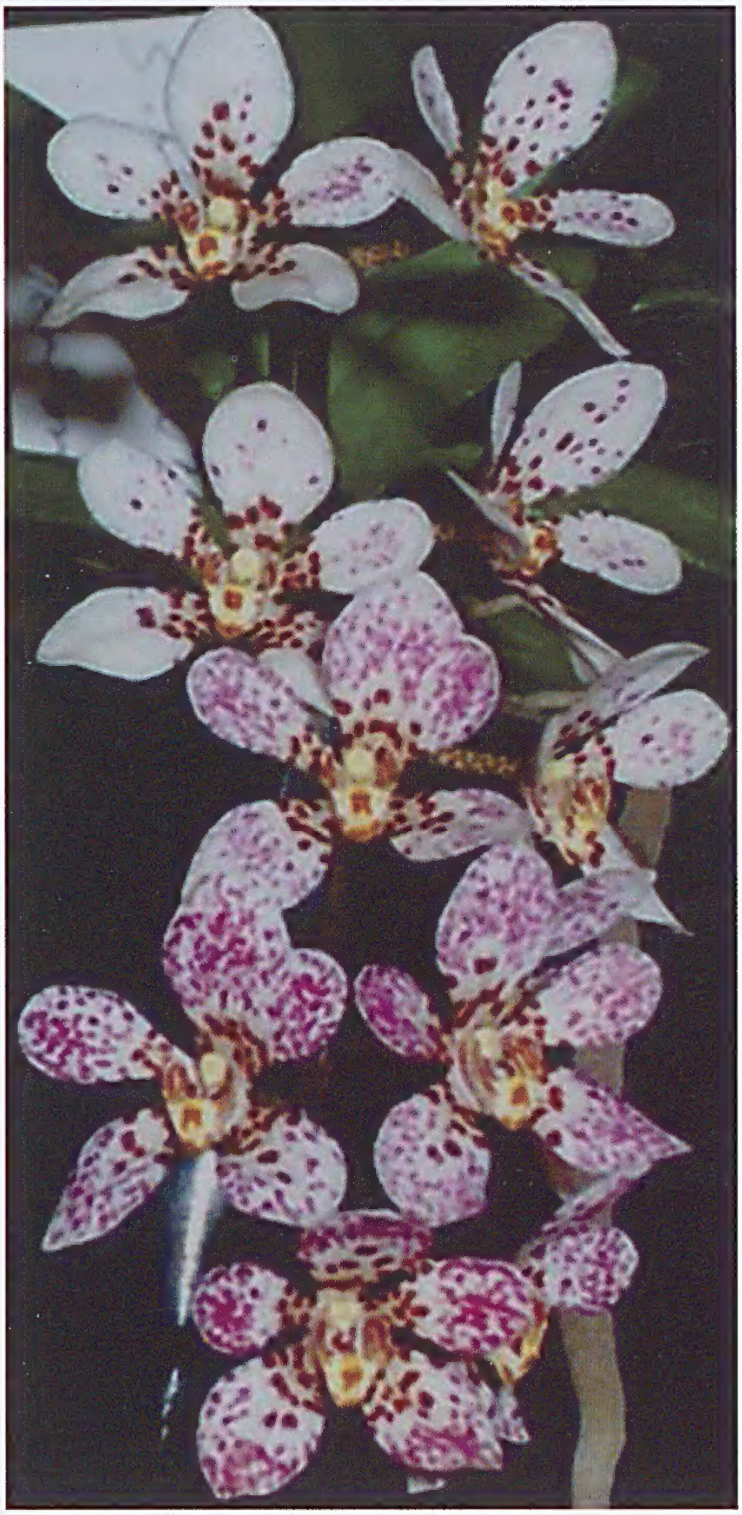
To whet our appetite in other areas was the local bush fire brigade providing sausage sandwiches, cold drinks and slushees to keep us cool.

All in all this was probably the best that we have presented at our annual *Sarcochilus* show, the location ideal, great marquee and we had a number of 'uninitiated' native orchid growers attending. They even came from as far afield as Cronulla, thanks to Graham Ross for giving us a plug on his weekend radio gardening program.

In closing we would like to extend our sincere thanks to Peter Rogers and the staff of Penrose nursery and aquarium for their ongoing support. Given the hassles they had with the fire, this was greatly appreciated and we look forward to holding our *Sarcochilus* show next year at the Penrose nursery.

Jakob Wanner, President

Photographs by Brian Gerhard.



Sarcochilus Lenevans 'Harlequin'

A Fiftieth Anniversary Special Article

A Life With Australian Native Orchids

Ted Gregory (Photographs by Greg Steenbeeke)

My earliest of memories regarding orchids goes back to the early 1930s when my father was working a property for one of the shareholders of the Australian Agricultural Company on Craven Plateau way out the back of Gloucester in New South Wales. As was the norm at that time in our history land was being cleared to produce food for the Empire as fast as possible.

My parents hated to see the native orchids being burned in the following fires and would rescue a few now and again when they got the chance. The house they were living in was in the middle of an orchard that had been planted quite a few years before as a commercial venture but had been abandoned as the local bird life ate the fruit all day and the flying foxes ate it all night! There were still a few gigantic loquat trees growing around the house and I don't know if somebody told my parents or they worked it out for themselves, but once the native orchids were tied to these trees they grew like mad! In the brush that was cleared around us *Dendrobium speciosum* was rare, *D. gracilicaule* plentiful and *Sarcochilus falcatus* was common. Goodness knows what else grew there but these were the main ones we got involved with at the time. I started school in 1938 and had my orchids growing then.

For reasons beyond our control this property changed hands in 1942 so my parents had to find somewhere new to live and work. So we departed and left all our little orchids growing happily on their loquat trees. I went back there years later and they were thriving.

My parents then got a job share farming a property on Mograni Creek six miles out of the town of Gloucester. There was brush (rainforest) in all the gullies around here so I soon had a few orchids growing again. But after the last experience I decided to make the collection more portable. Someone told me they grew well strapped on tree fern bark so we gave this a try and bingo, it did work!

We had only just got the property going when the owner died, the property was sold and we had to move again. In 1945 we got the job of share farming on a property on Oxley Island in the Manning River for a Taree solicitor. This was a completely different kettle of fish to me, as this was delta country that had been cleared for years, except for a section of swamp which was still covered with casuarinas. This is where I first had much to do with the teretes: there was quite a patch of *D. teretifolium* here and there. The scent coming from one of these patches in the flowering season is a beautiful thing.

Oxley Island is typical delta country with most of it only a few feet above flood level. Luckily for the farmers there is one hill in the middle of the island, which must reach to about fifty feet. This has been left more or less untouched so farmers

Dendrobium teretifolium (at RBG Sydney) have somewhere to move their stock in time of floods. The hill was covered in eucalypt forest and is where I had much to do with native cymbidiums as there was quite a bit of *Cymbidium suave* in it when I first went there. That is seventy years ago so things might be a bit different now.

By this time I had started to get to know people with a common interest and had begun to swap bits with them so orchids started to gather around our home again. I had started to make a reasonable living by combining share farming with a small contracting business when disaster struck again. The man I was working for died so I had to move again and left Oxley Island in 1968 to move onto Trotters Island a little further up the Manning.

Here my interest in orchids started to go mad as I now lived close to Taree and joined the local society. In those days you were regarded as being a bit odd if you did not grow cymbidiums so I started growing them as well.

I had worked with the NSW Department of Agriculture in trials from 1945 and I reckon I knew how to grow most plants and after a couple of years Barbara and I started to win at the orchid shows. At one show we had just won Champion *Cymbidium* when one of the elite came up to my other half to tell her all about our good fortune. She politely told him we only grew cymbidiums to provide shade for our native orchids. Wish I'd had a camera handy!

From then on our collection grew like mad. By 1978 I had over a hundred cymbidiums in eight and ten inch pots. The native collection had grown just as quickly, especially *D. kingianum* in the dendrobiums and *Sarc. falcatus* and *Sarc. fitzgeraldii* in the *Sarcochilus*. *Sarcochilus falcatus* grew happily right down to sea level here.

Things in our lives were going sweetly but on 20th March, 1978 we were living in the wrong place at the wrong time. The Manning River had its one in fifty years flood and we had six feet of water over us for two days. What a sight when it went down! We lost all our cattle and when we looked at the orchid house, all the orchids were heaped up in one end covered in feet of mud! I had the family library stored in the outhouse with over a hundred years of history there and it was all turned to mud.

Sarcochilus fitzgeraldii

I raced and bought a pressure pump to try and save some of the orchid collection and got friends to start hosing. I could have saved myself the bother with the cymbidiums and the sarcs as they more or less drowned. But the dendrobiums were a different kettle of fish and we saved quite a lot of them. It's at times like this that you find out who your friends are. I had been swapping plants with friends everywhere and suddenly those same friends offered me bits and pieces of lots of those plants back again. This experience taught me that one should not be mean in swapping: I had kept a few of the top plants to myself and they drowned in the flood and were lost forever.

After the experience of the flood I realised that getting to own my own farm was becoming a dream so I started to look at other fields in life. I had friends in Queensland who thought they had a good deal lined up for me so I had an auction sale, paid all my debts and moved to Tamborine Mountain in Queensland.

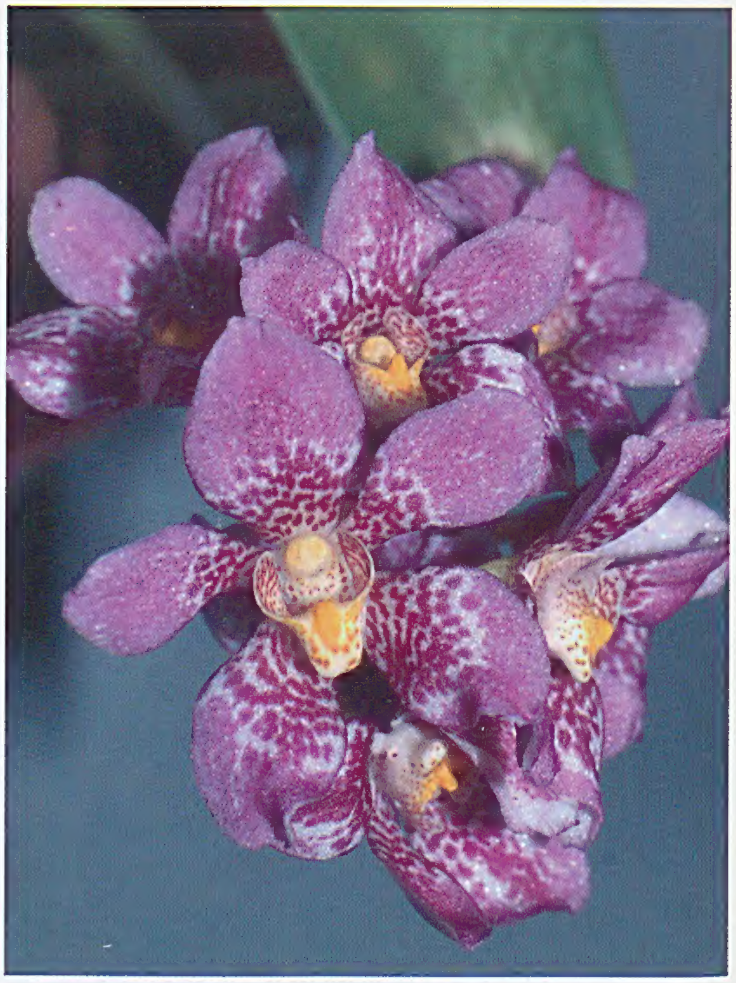
As is often the case, the deal collapsed after a few months and I was left in what you could call a sticky situation! The only things I knew in life were agriculture and growing native orchids, and as there was plenty of work available on the mountain in avocado and kiwi fruit I began working at this while we built up enough stock to start a mail order orchid business. One of our life-long friends said I'd never make a living selling native orchids but I gave it a go!

I have two wonderful daughters Merril and Ellen so combined their names and *Merrellen Orchids* was born. It took a couple of years to get the business going and we developed quite a nice trade in Australia and also overseas.

In the next seventeen years Barbara and I lived and breathed Australian native orchids and got to see an awful lot of Australia in the process. I began to realise just how friendly most orchid people are and am eternally grateful for the way we were treated while on tour.

I loved Tamborine Mountain and would still be there except for what life threw at us next. Our younger son Garry was brilliant in botany and was due to take over the nursery in a couple of years when he was tragically killed. This really shattered our dreams. Barbara had always wanted to come back to the Manning when we retired and this was the final straw, so we sold our home and our nursery and home we came.

Returning home was quite an event as I'd kept my basic orchid collection and we had quite a few garden plants that we really valued. We ended up hiring four furniture vans, two two tonners and two four tonners. When we finally got loaded and left, one van was half full of furniture and half full of plants while the other three were full of plants and nursery gear. Talk about chaos over the next few days as we built housing for the plants!


Sarcochilus Nabiac (registered 1997)

TINONEE ORCHIDS

Visit our Nursery on the
Mid North Coast near Taree, NSW.

Large range of
Australian Native Orchids, species
& hybrids from tube to flowering size.

Buses/Club Groups
welcome by appointment.

Cultural talks & morning tea facilities
available. Free catalogue & cultural
notes available by request.

Nursery Hours: Mon-Fri 9am to 4pm
Saturday by Appointment

TINONEE ORCHID NURSERY
768 Tinonee Road, Tinonee, 2430
Phone: (02) 6553 1012
www.tinoneeorchids.com orchids@tinoneeorchids.com

After a month or two we settled down to do what we had been doing for years: growing native orchids. I think this was when Barbara and I both started to really enjoy growing and breeding native orchids as we could now relax and breed what we liked.

Commercially, it would be a waste of time sending out an annual catalogue if it did not have fifteen or twenty new hybrids in it. So now we went back to mainly working with the species and an odd hybrid here and there. It's great to be able to put fifty seedlings in a tray and grow them all to flowering size. If they turn out good we skite! If they don't, we bin them!

We still get that itch in the spring when we see an outstanding flower and start to wonder what it would combine well with. Friends are still flasking and we are still growing the odd batch. No fools like old fools!

To do an article like this and not acknowledge the help I have received along the way would be rather rude so I'll do a little bit of explaining. To acknowledge all the friends who have helped me through my life with orchids would create a publishing problem of some proportion! So thank you all for sharing time and knowledge with me over the years with such a great common interest.

Hybrid Registrations: February—April 2013

Provided by the RHS as the Registration Authority for Orchid Hybrids

Australian Hybrids:

Dendrobium

Anthedon Gem	*Den.* [*Doc.*] *calamiforme* [*calamiformis*] x *Den. cucumerinum*	G.Dimos
Bright Surprise	*Den.* Harold Hirsch x *Den.* Louise's Rainbow	A.Wehman (O/U)
Killen	*Den.* Crooky x *Den.* Jesmond Dazzler	P.Grech (B.Killen) Nanny
Joy	*Den.* Nelly Bay x *Den.* Cassidy	P.Grech
Purple Cluster	*Den.* Purple Joy x *Den.* Gillieston Jazz	Wilson Ng (O/U)
Sarsfield	*Den.* Colonial Surprise x *Den.* Autumn	N.Sargant (O/U)
Tamboon	*Den.* Finlay x *Den.* Keldon	P.Grech

Sarcochilus

Doris Virginia Ruiz	*Sarco.* Nabiac x *Sarco.* Zoe	C.J.Kozlowski

Australasian Hybrids:

Dendrobium

Alethea Michele Chew	*Den. lineale* [*veratrifolium*] x *Den. leporinum*	E.M.K-A.Chew
Crystal Rose	*Den.* Peter Shen x *Den.* Hisako Haraguchi	H & R
Emily Kavita Rajah	*Den.* Burana White x *Den.* Thai Jewel	R.Sreenivasan
Grand Enchanteur	*Den. eximium* x *Den. forbesii*	L'Amazone
Green Flash	*Den.* Andreé Millar x *Den. convolutum*	H & R
Hawaii Spectacular	*Den.* Big Alex x *Den. spectabile*	H & R
Jairak Compact	*Den. bigibbum* x *Den.* Burana White	K.Somboonpol
Jairak Helix	*Den.* Jairak Twist x *Den. tangerinum*	K.Somboonpol
Lucky Charms	*Den.* Peter Shen x *Den.* Roy Tokunaga	H & R
Lutin Blanc	*Den. aberrans* x *Den. polysema* [*pulchrum*]	L'Amazone
Nancy Navam Ponnampalam	*Den.* Caesar x *Den.* Betty Goto	R.Sreenivasan
Seletar Delite	*Den.* Kim Bora x *Den. lasianthera* [*ostrinoglossum*]	David Lim
Silver King	*Den.* Peter Shen x *Den.* Silver Wings	H & R
Supanburi White	*Den.* Thailand White x *Den.* Thonglor White	T.Orchids
Tiny Bubbles	*Den.* Maiden Charlotte x *Den. aberrans*	H & R

2013 Speciosum Competition

Ever wished that orchid show had been on last week or next week or you had a bigger vehicle to get your prize plant to the show?

Those who grow *Dendrobium speciosum* will be very familiar with this problem. Plants are generally large, flower spikes are long and heavy and it is difficult to get them to a show venue in pristine condition. Then if the show is judged early morning or at night (as most are) then it is highly likely that flowers will not be fully open or if they are then they will be past their prime. Unlike many orchids, speciosums are at their absolute best for only a few days.

With a view to increasing awareness of this spectacular species and promoting its cultivation through showcasing the cream of the crop, ANOS Mid North Coast Group will conduct a competition aimed at finding the best *Dendrobium speciosum* plants around.

The competition is open to everyone and entries will be through digital photos which can be submitted on CD or DVD.

For those who believe they have a good speciosum but have never had the chance to show it off at its best here is your chance. Best of all you won't have to take the plant to a show but it must have been photographed to show the 2013 calendar year flowering. You will be able to photograph your plants at their peak and should have no excuses for not getting the opportunity to show them in top condition.

It is expected that the competition will be judged by ANOS judges from across the country. Photos of the winning entry and other highly commended plants will be displayed at the 2014 Kempsey Speciosum Spectacular.

The owner of the winning plant will receive a trophy that will be presented at the Kempsey presentation dinner.

Those entering will receive a DVD of photos of all plants entered the cost of which will be

Dendrobium speciosum 'Sahara Gold' Photograph by John Zietsch.

Telstra

ANOS Council Meetings proudly Sponsored by Telstra Countrywide

Dendrobium speciosum 'Windermere' x 'Daylight Moon'.
Photograph by Bill Dobson.

covered by an entry fee of $5. Entries will close 1st January 2014

For further information and entry forms contact:

John Zietsch
Secretary, ANOS Mid North Coast
E-mail: anosmidnorthcoast@hotmail.com
Phone: 02 6554 9733

Dendrobium speciosum 'Daylight Moon'
Photograph by Greg Steenbeeke.

Dendrobium Beetle—Research Project and Members Input

Tony Clarke (mahan-ak@hotmail.com)

This article relates to the questionnaire sheet enclosed with this issue.

Normally during spring and when new growth of my native orchids is emerging I am vigilant for signs of *Dendrobium* beetle. I often spray the new growths, as from my experience this is where they attack. They almost invariably visit opening leaf axils as this is a good hiding place to lay their eggs. This year I decided to hang some of my terete leaf dendrobiums along the front veranda to get good air movement. I was very disappointed to come home and find a beetle consuming a new growth of one of my good hybrids. During a recent trip to West Australia, ANOS President Rick Winch took me to some of his friends who grow some of their native orchids outside. I was impressed by the growth of a large specimen of *Dendrobium speciosum* growing vigorously in a garden with no signs of damage which we would normally expect in eastern Australia. In fact it is my experience that people who grow *Dendrobium speciosum* in their gardens are also breeding *Dendrobium* beetle. What a scourge these insects are and it would be great if we could control them to the extent that they are just an occasional visitor from the wild. Of course to attempt to control them we must understand their life cycle and learn all we can about them.

I feel what is required is a concerted effort by all orchid growers, entomologists and all those interested to pool their knowledge and experience of *Dendrobium* beetle.

It has been over twenty years since Neil Gough and Brian Montgomery, entomologists with the then Department of Primary Industry (Queensland), started their study of the biology of the beetle, distribution, host, range and control measures. The Australian Orchid Foundation (AOF) as well as the Horticultural Research and Development Foundation (Queensland) financially supported this study which commenced in 1990. This study was never completed due to the death of one of the team, however Gough and Montgomery did publish some good information, (*Orchadian* 10(6), 1992). A questionnaire was enclosed in this issue asking for reader's information on *Dendrobium* beetle and the results of this questionnaire were, to my knowledge, never published. An abbreviation of this study is as follows.

Life cycle, female beetle lays eggs on new growth, usually leaf axils, flowers or seed pods. Approximately 1 week later larvae emerge and feed on new leaves, flowers or seed pods then usually tunnel into the stems or pseudobulbs, exiting at the base of the pseudobulb and pupate inside a cocoon that looks like frothy polystyrene foam.

Distribution: eastern Australia, from about NSW / Vic. Border, to northern tropical Queensland.

Optimum climate: eggs hatch in 4 to 5 days, larvae stage, one week at a temperature of 25°C to 30°C. Larvae development is about three weeks, pupate more than eight months at temperatures about 15°C. The beetle can complete its life cycle in winter in Brisbane. My experience is that it is dormant during winter in the Newcastle area, manifesting in spring and active all summer. High humidity is necessary and it has been observed to attack *Cymbidium canaliculatum* in areas inland where the humidity is low but these attacks seem sporadic and more information on this matter is required.

Longevity and foraging range: beetles observed to live in excess of 6 months (in laboratory) and to forage 250 metres in bushland over 1 to 2 days.

Natural enemies: ants were observed to be the major larval predators. Undoubtedly there are other native predators, as it has been my observation that in pristine country the beetle may be present but usually not in plague proportions.

Control: Gough and Montgomery trialled and recommended Carbaryl®, as it is "cheap, readily available and has a low mammalian toxicity". (Although it is highly effective, Carbaryl® can no longer be regarded as a user friendly chemical as the Material Safety Data Sheet (MSDS) states that it now is regarded as a carcinogen, category A4.)

Gough and Montgomery mention the use of a bacterium (*Bacillus thuringiensis*) as a possible non-chemical strategy. "This has been used against caterpillars in the past, and a new strain is available which kills Chrysomelidae larvae". This was to be tested as part of their project but to my knowledge was never done or the results never published. Gough and Montgomery also planned to do future work;

- Visit North Queensland to determine the pest status of *Stethopachys formosa* (*Dendrobium* beetle);
- Complete population study in southeast Queensland rainforests;
- Study of orchids other than *Epidendrum*, we wish to study the attack of *S. formosa* on other orchids. Many of Gough and Montgomery's observations were on a group of epidendrums in suburban Brisbane.

To my knowledge this further work was never carried out.

While good protection can be achieved with a structure using shade cloth, it also impedes air movement, which is essential for good culture of epiphytic orchids. Many gardeners will attempt to grow their orchids in a garden setting, which perpetuates colonies of *Dendrobium* beetle in suburbia. Obviously a better control than what is practiced now is required.

The work of Gough and Montgomery does give good information about *Dendrobium* beetle but some of it is dated and the work was not completed. I feel another questionnaire should be undertaken, asking orchid growers, naturalists, entomologists and all those interested, the following;

What chemical control of low toxicity is being used? I am using a product called Merit (Imidacloprid, also found in Confidor but at a lower strength), which in my experience quickly kills *Dendrobium* beetle and larvae. If used with a wetting agent or pest oil it has a small residual effect and if used at certain strengths is also systemic. The MSDS assures me of its low dangers to people if the usual precautions are observed but unfortunately it does not discriminate in the garden and any overspray will kill beneficial insects. It is worth noting that this chemical has just been banned in Europe because of the effects on honeybees and other beneficial insects.

Biological controls: does anyone use or know of a pheromone or artificial fragrance to use with a trap? Has anyone observed a natural enemy of the beetle? Does anyone use or know of an effective bacterium or had success with a trap of any description?

Observations: has anyone observed unusual behaviour, habits, feeding on plants other than orchids?

Observed distribution: how far south, north and west has it been sighted and has any unusual behaviour been noted at these extremes? Local endemism: is there an area of Brisbane, Townsville, Sydney, or Kempsey where it should be found but has never been observed?

Repellents: does anyone use or know of an effective, low toxicity repellent?

Protection: are fruit bags tied over developing new growths and seed pods effective and are there any other prophylactic devices?

Similar insects: is there anything to be learned from the biology of *Crinum* beetles? Surely there is information available on other genera of similar or closely related insects in Europe or North America which attack important commercial crops and how are these controlled?

Completion of life cycle: while it has been observed attacking *Diuris* and *Sarcochilus*, I suspect smaller orchids are not suitable for larvae or cocoon. Does observation support this?

General observations of any type: Is there an orchid (including non-native) the beetle does not attack?

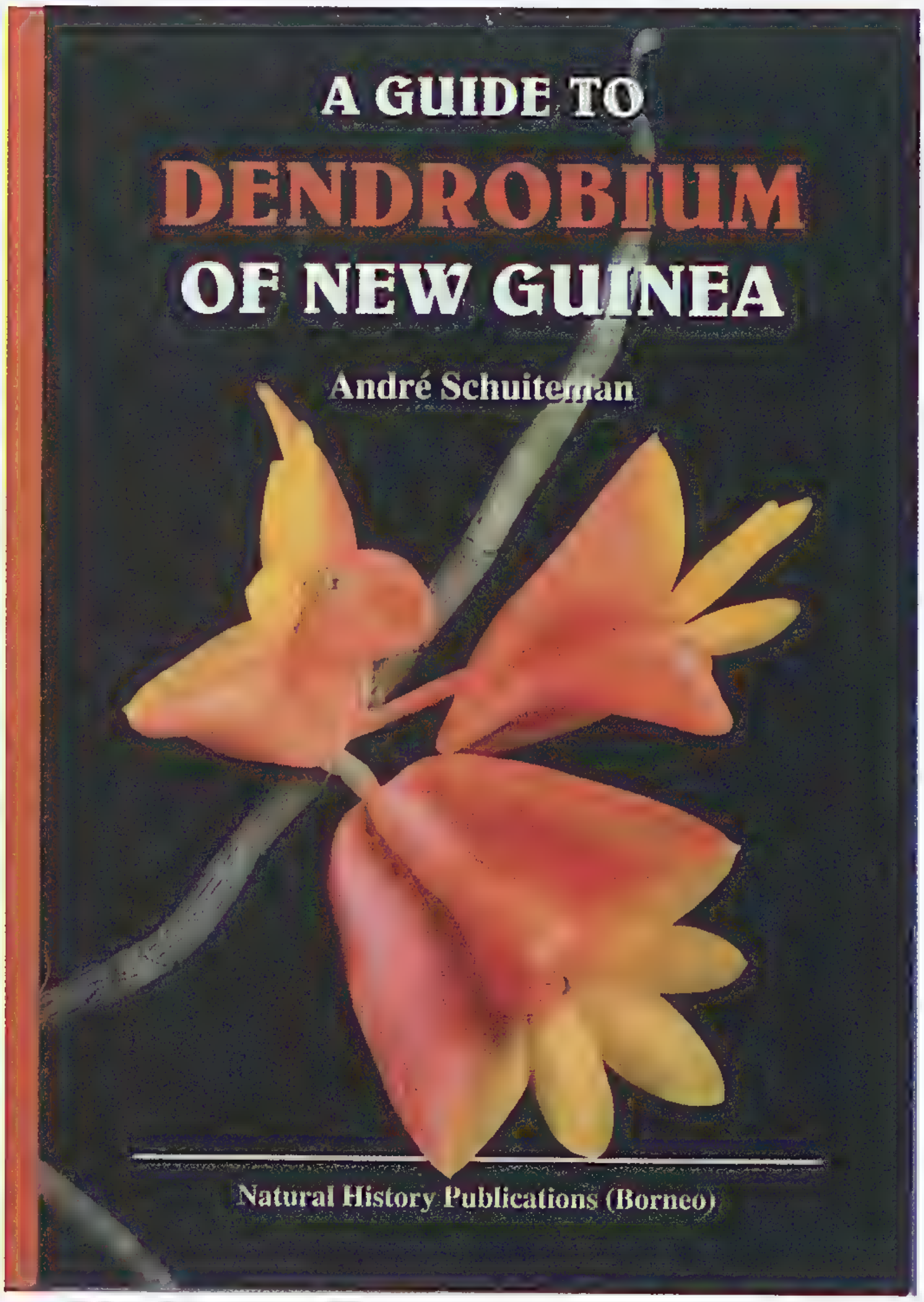
I feel the development of traps, pheromones, artificial orchid fragrances and a bacterium are most important.

Thanks to Alan Stephenson and Nette Megetto (A.O.F.) for help and information.

Reference

Gough N. & Montgomery B. (1992) Studies on the biology and control of the orchid beetle *Stethopachys formosa* Baly. *The Orchadian* 10(6): 188-190.

Book Review: *A Guide to Dendrobium of New Guinea* by André Schuiteman.



André Schuiteman is the senior researcher and head of the Orchid Team at the Herbarium of the Royal Botanic Gardens, Kew. He has a long term interest in the genus *Dendrobium* and, along with Ed de Vogel, produced the series of CD-ROMs on the orchids of New Guinea for the *Flora Malesiana* project. One of his research projects in recent years has been the *Dendrobium* part of *Genera Orchidacearum* which is due to be published later this year.

A most attractive by-product of this research has just been published in the form of this full colour book of 122 pages in A5 format. The island of New Guinea is home to about 560 species of *Dendrobium* and 82 are illustrated in this book with a full page devoted to each. They represent a selection from the different sections of the genus. Many well known species are included along with some lesser known examples. Both Papua New Guinea and Indonesian New Guinea are covered.

Natural History Publications (Borneo) has been producing beautiful books for the best part of 20 years and this is no exception. The book is printed on high quality paper, and is attractively designed. The colour reproductions are excellent and dominate each page as the text has been kept to a minimum. Each species occupies a page and includes a brief description, details of altitude and distribution. Altitude information is of vital interest to orchid growers. Many of the photographs were taken in the wild. In most cases a close up of the flower is included as an insert. In addition twelve photographs of different New Guinea habitats are included in the Introduction.

Thirteen pages of the Introduction are devoted to the classification of *Dendrobium*. André Schuiteman's ideas on classification may surprise some *Dendrobium* fanciers. The classification used here is the result of several years of scientific investigation including DNA analyses which have been published previously (e.g. Schuiteman and Adams 2011; Schuiteman 2011) and will be used in the soon to be published Volume 6 of *Genera Orchidacearum*. The idea of splitting *Dendrobium* into numerous genera has been rejected and instead it is maintained as one inclusive genus with several sections, 21 of which are represented in New Guinea. The genera *Cadetia*, *Diplocaulobium* and *Flickingeria* have been placed in *Dendrobium*. Other major changes to the sections of the genus are apparent in the section *Calyptrochilus* which has been redefined to include sections

DENDROBIUM SPECIOSUM SPECTACULAR & AUSTRALASIAN ORCHID SPECIES and HYBRID SHOW 2013

Kempsey, NSW

(Ted & Winsome Walmsley and ANOS Mid North Coast Group)

Now in its 12th year, this well established event should not be missed. Note the dates and be sure to come and experience the magnificence of a mass flowering of speciosums. A range of fine quality line bred plants will also be for sale. All are welcome to exhibit and judging will be by an all ANOS panel. Monetary prizes and trophies will be awarded in a range of classes including species, hybrids and terrestrials.

Interstate entries are encouraged with a prize for the most travelled orchid.

***Dates*: Sat 31st Aug 10am to 4pm [Closed for judging between 11am and 12noon this day]**

Sun 1st Sept 9am to 2pm

***Location*: 57 Spooners Ave., Greenhill via Kempsey.**

***Details*:** Electronic copy of a brochure with locality map, show schedule and associated events is

---

Cuthbertsonia and *Oxyglossum* along with parts of *Pedilonum* and *Calcarifera*. For example *D. smillieae* is now placed in *Calyptrochilus*. Genera recently split from *Dendrobium* such as *Dockrillia* and *Grastidium* are not recognised in this system. Included in this part of the book is a key to the sections present in New Guinea. The book concludes with an appendix titled: Preliminary Checklist of *Dendrobium* in New Guinea. This most useful appendix lists all the New Guinea species by section.

Errors are hard to find. There is a glitch on the map with a strange blue semi-circle on the Mamberamo River in northern Indonesian New Guinea, but little else. In summary this is a most attractively presented book, but its value is more than just pretty pictures. It is a useful addition to the literature on New Guinea dendrobiums and deserves a place on the bookshelves of all orchid species lovers. It is available through Orchidaceous Books (advertisement on Page 339) for about $23, or through the publisher in Borneo.

References

Schuiteman, A. and Adams, P.B. 2011. New combinations in *Dendrobium* (Orchidaceae). *Muelleria* 29(1): 62-68.

Schuiteman, A. 2011. *Dendrobium* (Orchidaceae): To split or not to split? *Gardens' Bulletin Singapore* 63 (1 & 2): 245-247.

Publication details

ISBN 978-983-812-140-8
Published in 2013 by:
Natural History Publications (Borneo)
P.O. Box 15566
88864 Kota Kinabalu
Sabah, Malaysia
www.nhpborneo.com
info@nhpborneo.com

Bill Lavarack

Orchid Conservation at Home

John Allen (orchidinterest@bigpond.com)

The second of the 2012 AOF Essay Prizes is presented here. John and Ruth Allen of Bathurst, NSW placed second in the competition which is again being run this year, with details on page 306 of the last issue or online at www.australianorchidfoundation.org.au.

Australian Orchid Foundation

What is conservation?

There are many misconceptions about the term 'conservation'. What does it mean? What does it mean in relation to growing orchids at home?

Biodiversity is likewise a great word we use without thinking much about it. Australia has its own 'Biodiversity Policy', called 'Australia's Biodiversity Conservation Strategy 2010 - 2030', so I guess even our Government recognizes that the two are connected – biodiversity **and** conservation.

But what has that got to do with orchids? My personal problem with the strategy was and is that it is designed to protect and preserve Australia's native biodiversity. It ignores exotic species; ignores current and future land use for growing food and fibre; ignores the changes that must take place if humanity is to survive on this earth and generally applies blinkers to any real attempt at conservation.

Most orchid growers wouldn't recognize an Australian native (terrestrial) even if they tripped over it! Probably a bit harsh but if we are going to talk about 'conservation' we need to understand what we mean by the term when we relate it to growing orchids at home.

So does 'conservation' mean much when most of us concentrate on growing exotics anyway? If it doesn't, then this competition is meaningless, and I don't think that is so.

A few definitions of 'conservation':

The Concise Oxford Dictionary, 4th Edition, 1951 – *'principle that total quantity of energy of any system of bodies (including the universe) is invariable'*

Macquarie Pocket Dictionary, 3rd Edition, 1998 – *'the act of conserving, especially of natural resources; care for and preservation of rivers and forests'*

Australia's Biodiversity Conservation Strategy 2010 – 2030 - **Conservation**—In relation to biodiversity, conservation is the protection, maintenance, management, sustainable use, restoration and improvement of the natural environment; in relation to natural and cultural heritage, conservation is, generally, keeping in safety or preserving the existing state of a heritage resource from destruction or change.

WordDictionary.com (2012) gives us three definitions:

n 1: an occurrence of improvement by virtue of preventing loss or injury or other change [syn: *preservation*];

2: the preservation and careful management of the environment and of natural resources;

3: (physics) the maintenance of certain quantities unchanged during chemical reactions or physical transformations

Just with those four definitions, we can see the dramatic change that has taken place since 1951 – from a genuine physical principle, to something related to rivers and forests, to a definition that aims to PREVENT change in our natural environment - preservation.

As responsible orchid growers, we wish to avoid waste; ensure the conservation (continued survival both in the wild and in cultivation) of the plants we grow; minimize any adverse impacts on our environment; avoid over-use of

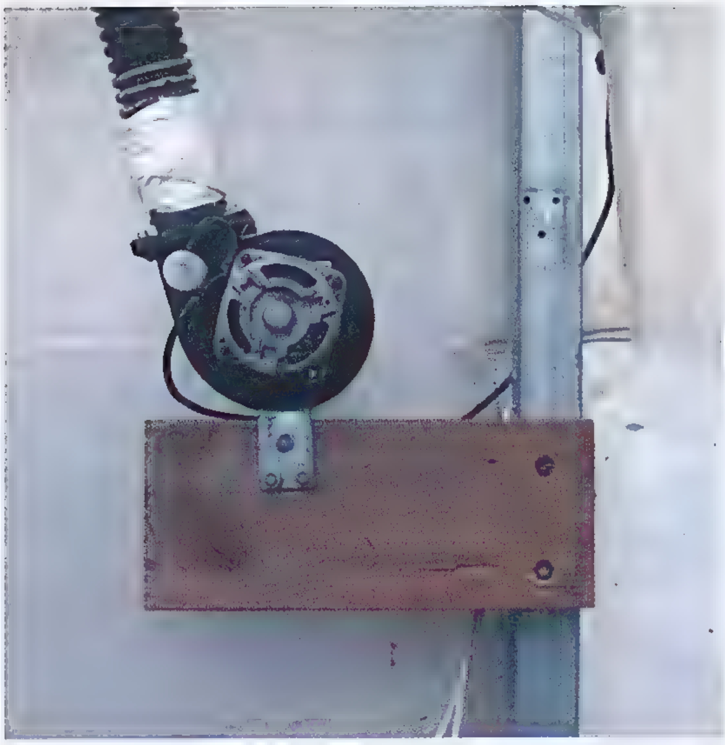


Figure 1 - Small pump for double-skin lining

any resources; and generally enjoy our hobby.

What can we conserve?

Before we start, we need to acknowledge that growing orchids, particularly exotic orchids, is not an activity that is compatible with the term 'conservation' as it is normally applied to our 'natural' ecosystems. We are growing in an artificial environment; generally growing plants outside their known habitat; using techniques that are not natural; and we gain great enjoyment from doing this.

For orchid growers, conservation will generally relate to the energy and resources we use in continuing our hobby.

1. Total energy – electricity; gas; etc.
2. Manufactured resources – shade cloth; plastic covers; glass; etc.
3. Possible contaminants of the environment – fertilisers; pesticides; excess water; etc.
4. The growing medium – bark; coco chips; sphagnum moss; Perlite; charcoal etc.
5. Water

All of these items can be over-used, wasted, or even be miss-used. Most of us associate conservation with energy – electricity and gas and perhaps with water. But it should be wider and include the matters mentioned above and more.

As a professional trained in environmental management, I do a lot of thinking about these issues and how my hobby can be improved. There are some issues pertaining to conservation that I have experimented with. These include assessing the amount of fertilizer orchids can use; how to more efficiently multiply our Australian terrestrial orchid tubers; and how our terrestrials respond to different media and surface mulches. These issues are important for our conservation effort for our native orchids.

Let's have a look at what we might achieve in terms of conservation and growing orchids at home.

Conservation possibilities at home

Total energy – electricity, gas

The potential for energy conservation will vary

Table 1 –Annual Cost Savings from Conservation Measures

Issue	Without Conservation	With Conservation	Saving
Heating	Electric heating $5,600	Gas heating $1,250	$4,350
Cooling	Air conditioning $400	Evaporative cooling $150	$250
Totals	**$6,000**	**$1,400**	**$4,600**
Cost per plant per year	**$1.50**	**$0.35**	**$1.15**

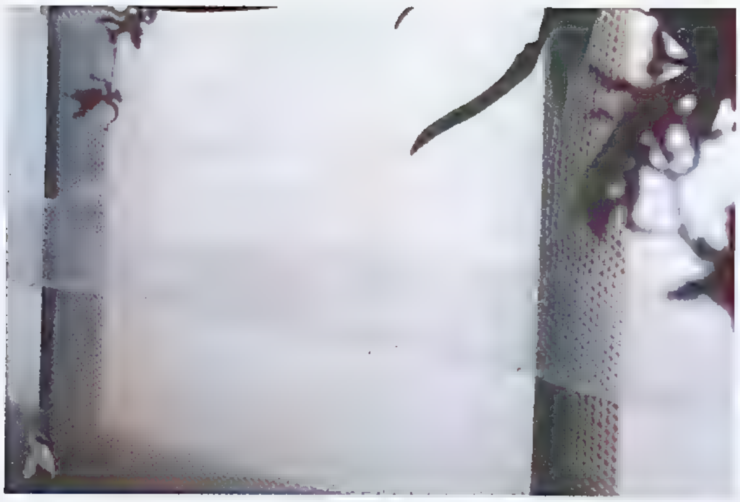


Figure 2 - Bubble wrap applied to inside of hot house.

greatly depending where you live and what you grow. Those of us who live in cold areas probably recognize this better than those who live along the warm, moist coastal strip. I have gas heaters in all my orchid houses; back-up electric heating if gas supply fails; and one wood stove. I try and keep all houses above 4 degrees and one above 8 degrees. Heating bill (gas) is in the vicinity of $1,200 to $1,500 a year or about 35 cents per plant per year!

In summer, we can have temperatures in the 40s. At the same time we experience very low humidity compared to the luxury, high humidity of the coastal strip. Humidity levels of 2% to 4% are regular. Keeping the humidity level up in the hothouse can be quite a challenge in these conditions. Fans are a must and air flow has to be good to avoid burning of the plants.

Electricity and gas are rising in cost.

What have I done to reduce this massive energy cost for my 'hobby'?

1. Construction and location of the hot house.

- North/south alignment allows best sun access – warmer in winter (hotter in summer); more light, less need to heat on cold days and nights - reduced heating costs for winter but increased cooling costs in summer;
- Shade cloth in summer and good air flow using pedestal type fans. Most fans run on about 50 watts of power for a 40cm fan. That's about $115 per year per fan - $25 to $30 a quarter for 24/7 operation.
- Use a double skin lining to the hothouse, the gap filled with air for insulation. This gains me about 2 degrees overnight if the temperature is above zero. A little less as the temperature drops below zero;
- Add bubble wrap sheet under the 'skin' of the house. This reduces heat loss significantly - 1.5 to 2.0 degrees warmer at night.

2. Heating in winter.

This is my major cost. I use - or am considering - the following:

- Use the construction options discussed above;
- Use the most efficient heating option I can.

⇒ Electric heaters – These are perhaps the most inefficient of all options. Any heater that converts electricity into heat can produce no more than 3.6MJ per kilowatt hour of electricity. The simple $20 fan heater is one of the best units to distribute heat efficiently.

⇒ To provide 10 kilowatt hours (about 4 or 5 fan heaters running at maximum) of electric heating for say 12 hours a day for 6 months of cold weather, uses 21,600KW at $0.26 per KW = $5,600. A single fan heater running at half setting (800 to 1200 watts) generates about 1,750KW and costs about $450 a year.

⇒ Air conditioners or Heat Engines – air conditioners use electricity to run a series of pumps and fans. They are considerably more efficient than electric heaters because they literally transfer heat (or cold) from one side to the other. Choose a good one (4 or 5 star) and you can get 4 to 5 times the output of an electric fan heater. This is **very** significant. But many do not work well at lower temperatures. Some will just freeze up and shut down. If you live in a cold climate, you need to be very careful what you buy and be sure it will work at low temperatures.

⇒ If the air conditioner is 4 times as efficient as a fan heater, the cost drops to $1,400 pa.

⇒ Gas heaters – Use flued heaters if you can.

⇒ To provide 36MJ (the equivalent of 10

kilowatt hours) of heating for 12 hours a day for 6 months, uses 78,000MJ (the equivalent of 21,600KW) at $0.016 per MJ = $1,250.

3. Ventilation and cooling in summer

Cooling can be achieved in several different ways. I need cooling for only about 3 months of the year and then I really only need to drop the inside temperature by about 5 to 10 degrees. Assuming cooling for 8 hours a day for 100 days, I need to allow for 800 hours of cooling.

⇒ Air flow – Either natural cross ventilation or fan forced. A simple 40cm fan is quite efficient for small orchid houses and uses little electricity. I use about 8 fans which run 24/7 to provide air movement in winter as well as some cooling in summer. At 50 watts each, and 8,760 hours a year, the annual consumption is about 438KW at $0.26 or $115 per year per fan.

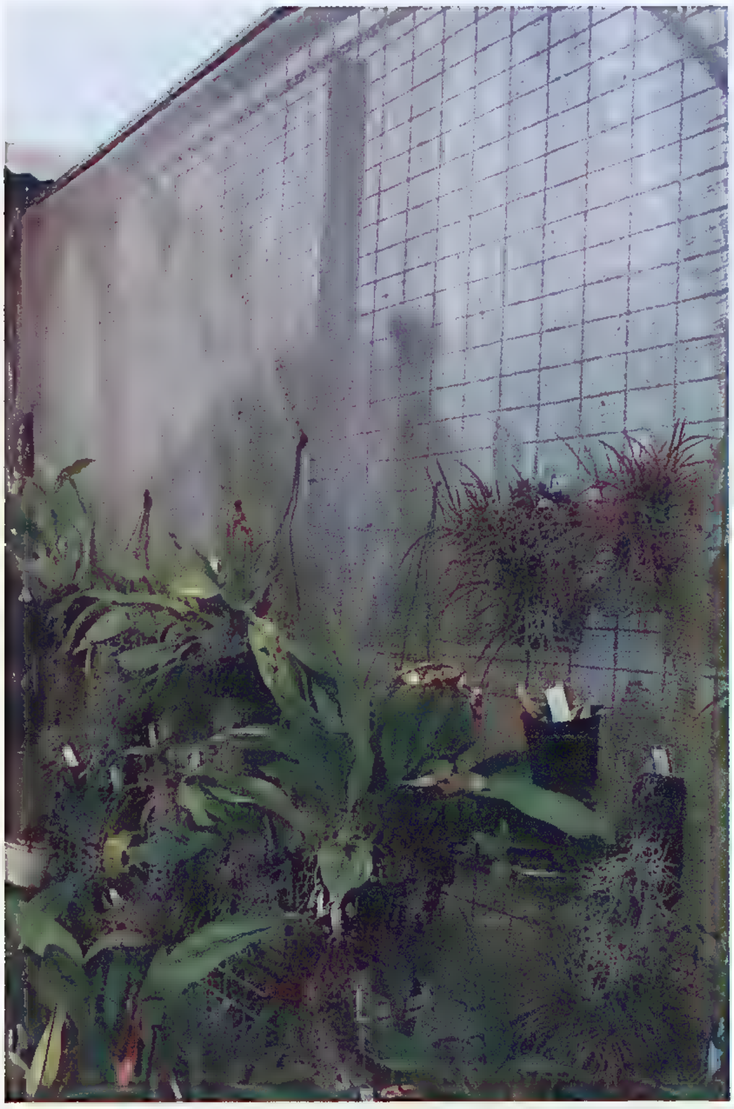


Figure 3 - A simple water-wall - water dripping over a hessian skirt.

⇒ A water wall – For those very hot days, I have installed a simple water wall in one house. It consists of normal dripper hose wrapped in several rounds of hessian at the top of the wall and then hessian hanging down the centre of the house. Water drips from the hose and dribbles down the hessian. A fan blows across the wet hessian and evaporates the water. Very cheap, uses only a few litres of water a day. Drops the inside temperature by 4 or 5 degrees. Cost is negligible.

⇒ Evaporative cooling – For my main hot house, I have installed an old second hand evaporative cooler (the type you install on the roof). I turn it on when the temperature exceeds 30 degrees inside. It generally runs for about 5 hours a day for 20 or 30 days a year. A total of 150 hours a year. The motor is about 400 watts (low) to 900 (high) watts. On normal low setting, the cost should not exceed $150 a year. A very cheap and effective cooling method.

⇒ Misting – I have misters in one hot house. These operate on timer and temperature sensor. They start to operate when the inside temperature exceeds 35 degrees and run for just 7 seconds every 20 minutes. Cost is again negligible.

Manufactured resources – shade cloth; plastic covers; glass; etc.

Most materials exposed to our Australian sun

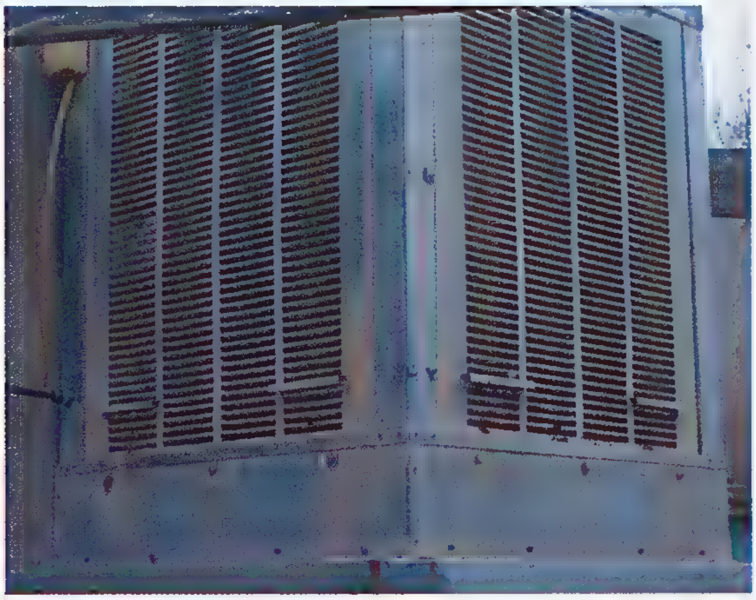


Figure 4 - An efficient evaporative cooler.

Table 2 – Annualised Maintenance Costs

Material	Expected life	Replacement cost	Annual cost
Agricultural Grade Covers	10 to 12 years	$5,000 or more	$400 to $500
Shade Cloth	5 to 10 years	$3,000	$300 to $600
Benches (timber and steel)	10 to 12 years (timber) 15 to 20 years (Steel and aluminium)	Not calculated (use scrap materials wherever possible)	N/A
Bubble Wrap	2 to 4 years	$500	$125 to $250
Watering systems	15 years plus if regularly maintained	Not allowed for	
Totals		**$8,500**	**$825 to $1,350**

tend to wear out or break down over time. Maintenance and replacement must be allowed for. The main materials I use and their effective life is set out in the table below.

Selecting quality materials designed for their use is perhaps the most important conservation decision here.

- Use agricultural grade plastic covers - treated for UV light protection
- Use UV treated bubble wrap if available
- Remove shade cloth when not needed and store in a dry place protected from UV radiation
- Clean watering systems regularly, replace damaged heads immediately.

So my total annualized maintenance costs amount to $800 to $1,300 or about $0.20 to $0.32 per plant per year.

Add the cost of heating and cooling and I need **$0.55 to $0.70 per plant per year** to keep my orchids alive and growing.

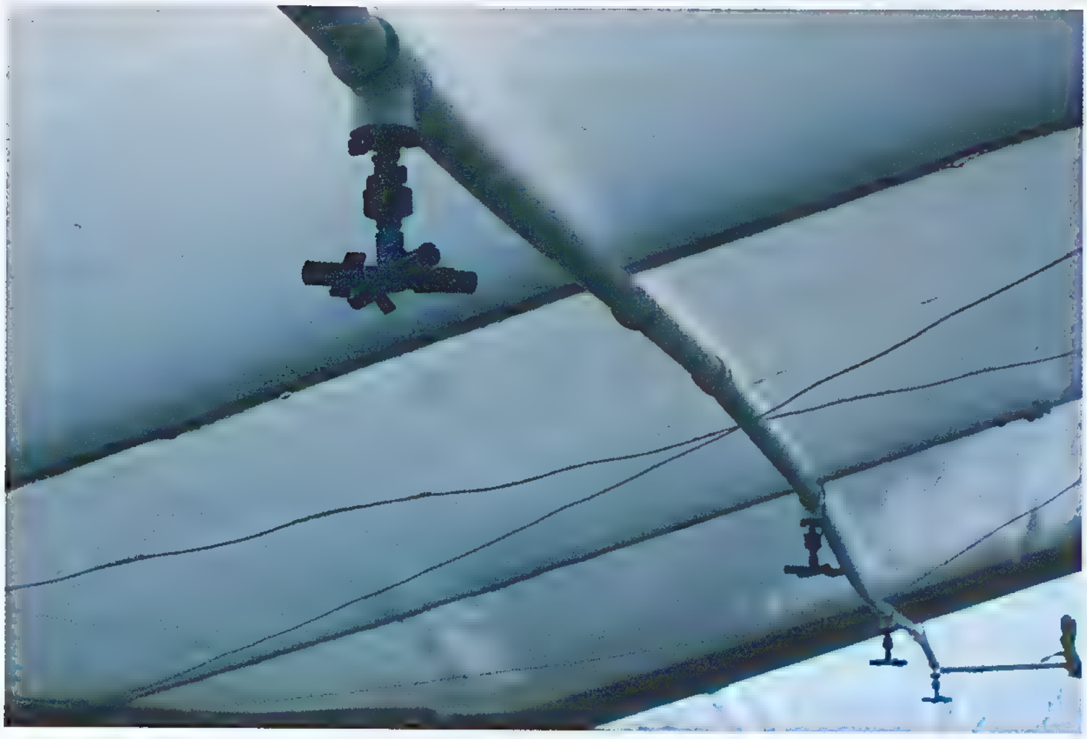


Figure 5 - Misters are excellent at cooling the hot house.

Possible contaminants – fertilisers; pesticides; excess water; etc.

Growing orchids in a sheltered hot house or shade house can increase pollution of our environment.

Protected from wind and rain, pesticides can remain active for longer than normal. Regularly applying fertilizer and allowing the excess water to run off can increase salt levels downstream from your orchid collection. Excess water can increase soil moisture levels well above their normal regime and cause a change to the local ecology downstream from your orchid houses.

Pesticides and fertilisers can be dangerous if abused. A few simple conservation rules should always be applied:

- Use hands and eyes as the first method of catching and destroying pests.

⇒ Wipe scale and mealy bug off with your hands – only use pesticide if it keeps coming back;

⇒ Search for snails and slugs at night or early morning.

⇒ Search for caterpillars when they are around

- Design your house to keep pests out. They love a safe sheltered habitat without their normal predators.

⇒ Side walls should reach the ground and preferable be buried into the ground to prevent snails and the like

⇒ Use a fully closing door to stop flying insects from getting in

⇒ Make sure you clean the floor regularly to remove dead and decaying material

- Only use pesticides when absolutely necessary. NEVER exceed the manufacturer's recommended rates.
- Check where the run-off from your orchid house goes – is the area always wet? Has the grass died? Adjust watering and fertilizing rates till there is minimal runoff or contamination. Don't waste water or fertilizer.

The growing medium – bark; coco chips; sphagnum moss; Perlite; charcoal etc.

All our growing materials cost money. A few simple rules will help you save money here and will significantly reduce the impact on the environment. All potting materials come from the environment one way or another and we need to use them responsibly.

- NEVER repot ALL orchids into a new medium just because someone said it works better. Do a small trial first – just a few pots of different species and see how it works over the next 6 months or so
- Repot only when necessary
- Make sure your potting mix is clean and free from pests, slugs etc. I wash my mix as soon as I open each bag, allow it to dry and then sieve out the fines before using it.
- Store unused media in a clean, shaded location and protect from infestation by pests.
- Re-use bark, chip and perlite media. I collect all my old media, remove dead roots, moss etc., and sieve to remove decomposed particles and fine material. Then leave it open to the sun and weather for 3 or 4 months. Sunlight is a great disinfectant and sterilizer and will leave your medium clean and healthy as newly composted material. (But of course badly decomposed or mushy stuff should be thrown out and not re-used). My final re-processed material is generally a grade finer but I have never had any problems with it. I find about 40 to 50% can be re-used.

Water

I rarely use town water because my tanks supply nearly all I need. I have 15,000 litres of storage for 4,000 orchids and we get 640mm of rain a year on average. To cover a bad drought year, you need to assume you will catch only 10% of the average rainfall – 64mm in my case!

For a 200 m2 roof, the equation becomes:

200m2 x 0.64m x 0.1 x 1,000 = 12,800 litres yield

In a drought year, I will have to buy water. In a normal year, my tanks are full most of the time.

Conservation of Orchids

For us Australians, I think our 'hot topic' should be the preservation of our Australian native orchids – especially the terrestrials.

Our epiphytic orchids are already very popular and are grown widely. But few grow the terrestrials ('Is **that** the flower? REALLY?'). Our knowledge of growing, propagating and hybridizing is very limited. Many growers quickly succeed in killing any they purchase just because they know so little about how to grow them.

As you would expect, our native orchids are beautifully adjusted to our natural climatic conditions. This means they understand about dry, hot summers and extended droughts; the occasional flood; regular bushfires and all those other things that would kill most of the other orchids we grow.

Our Australian terrestrials normally hide underground in summer to avoid the heat and reduce moisture loss; some rely on the gasses generated by bushfire to activate growth.

Collecting in the wild (picking) is not generally an option. A license to 'pick' is needed and will state what can be collected, by whom, and how the collected plants can be used. It is relatively easy to buy approved plants or tubers.

Most of the suitable habitat has been cleared or developed. We need to learn how to grow and propagate terrestrials before they ALL end up on the rare or endangered list.

I have obtained a picker's license on two separate occasions now and still have most of the species tubers I was able to collect then. Many have multiplied; some died; some just faded away. But I have been able to learn so much and most of what I now have will survive and increase. Those I have purchased from other licensed growers will likewise grow and increase.

In the long term, unless we learn how to grow our terrestrials in captivity, we will lose them. If you get the chance, join an ANOS club or a bush walking club; get to know what grows in your area; obtain approved plants and learn how to grow them at home.

Conclusion

Orchid conservation at home must be directed at the total conservation effort, not just at individual orchids or orchid species. We need to better understand how to manage our hobby at home to reduce wider environmental impacts and encourage total conservation.

Over and above this, we as Australians need to apply more of our conservation effort to our native orchids, especially our terrestrials.

Our various state and federal Societies need to encourage and promote research into all aspects of growing and propagating our orchids and improving their survival both in the wild and in our nurseries.

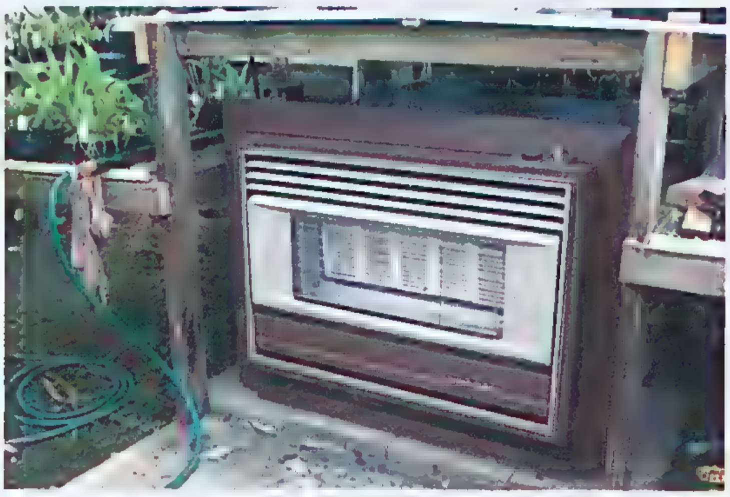


Figure 6 - Thermostat-controlled gas heater.

Australian Orchid Foundation

Latouria Dendrobiums

Spence, Phil., and Tokunaga, Roy. 2010

Published by the American Orchid Society as a supplement to Volume 79 of Orchids – *The Bulletin of the AOS*. With over 40 years of extensive studies of *Dendrobium* section *Latouria*, Phil Spence shares his observations and experiences of both the species and hybrids. Roy Tokunaga from Hawaii discusses general culture of these intriguing plants. 81 colour photographs. Softcover. 32 pages.

$12.00 plus postage

Reserve your copy today by ordering....

Website: australianorchidfoundation.org.au
Tel/Fax: (03) 5627 6303
P.O. Box 322 Essendon North 3041 Australia

7th ANOS Conference & Show Update

Stay up to date at www.ourshopfront.com/kabi.

After two and a half years of hard work and planning, the 7th Australasian Native Orchid Conference and Show is almost a reality. We are pleased with the number of registrations received. Our vendors have been finalised, as have our guest speakers. We have been a little surprised at the interest shown by local non-ANOS Orchid Societies. Although there seems to be some reluctance to mount displays, possibly because they think they don't have enough native orchids, there are positive signs that individuals will bench plants and attend the show.

Finance wise, we received grants from the Moreton Bay Regional Council and the Queensland Gambling Community Fund. Apart from these, we have been very active in fund raising through running food stalls at Bunnings Warehouses and to a lesser extent at a local Woolworths. We held 26 food stalls and although demanding on our members' time, were very rewarding financially. We must have sold thousands of sausages. I think the next barbecue we hold will be a celebratory one after the conference.

The Opening of the Conference will be held onsite at the Strathpine Community Centre. We are trying to arrange for an Indigenous Elder to welcome all guests and the opening speech will be delivered by the Mayor of the Moreton Bay Regional Council. There will also be short speeches from Harald Geppert, President Kabi Group and Rick Winch, National President. We want to keep the formalities to a minimum and allow plenty of time for attendees to mix socially and enjoy a drink and nibblies.

The banquet will be held in the Community Centre at Kedron Wavell Services Club at Chermside a short drive of about 10 – 15 minutes from Strathpine. It will be a buffet dinner with a wide range of choices which should suit the most discerning diner. There will be pre-dinner drinks and finger food prior to the meal and we have booked a very fine pianist to provide background music during the evening. Rick Winch will deliver a short speech regarding the 50th Anniversary of ANOS. We are currently trying to organise an auction of a small number of orchids on the night but am not able to confirm this will eventuate at the time of writing. We plan to make this Dinner the highlight of the conference week.

There is still time to register if you want to come and experience a wonderful week with fellow orchid enthusiasts.

If you wish to contact me personally my phone numbers are 07 32852047 or 041 001 0210. My email address is edboudette@aapt.net.au. I'd love to hear from you. Don't forget our website www.ourshopfront.com/kabi.

Eddie Boudette

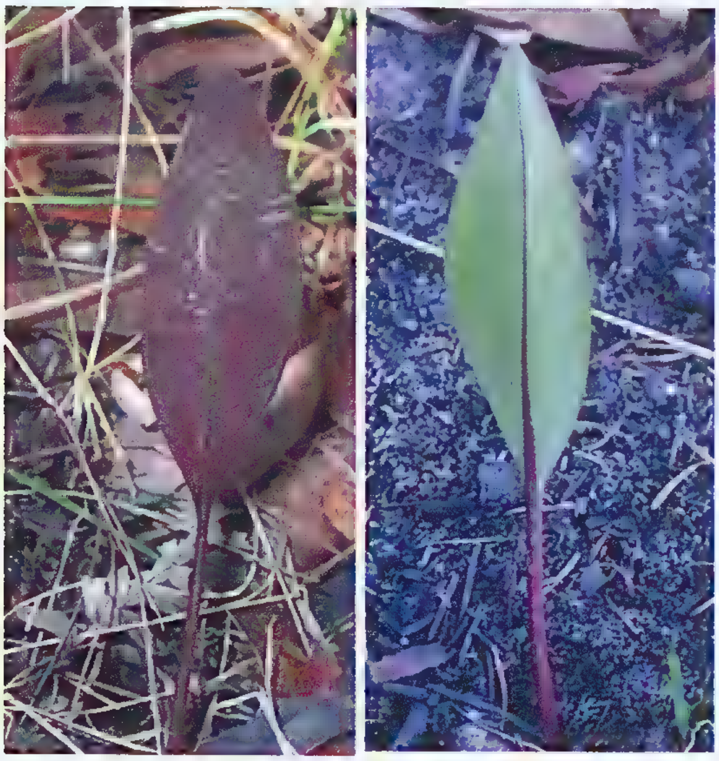
Conference Chairman

Three happy sausage sizzlers.

The Unpredictability of Orchids

(And why they rate very low on the scale of environmental importance)

National Conservation Officer, Alan Stephenson



Cryptostylis leaves, showing the reverse side, with the evident differences between *C. erecta* (left) and *C. subulata* (right).

The theme of the title poses a question which arises all too often and in these extremely difficult environmental times, it is important to consider the implications of a lack of thought and attention to the overall impacts posed by this lack of thought and attention.

I am often asked why some orchids are the focus of more attention than others. The question is usually asked at orchid shows where epiphytes are numerically dominant. As epiphytes are evergreen they are more easily noticed, both at shows and in their natural habitat. In most cases they also carry more flowers and are normally of a more colourful type than terrestrials. It is not my intention to pit one against the other, as despite the thinking of some, I do enjoy growing and photographing both types.

It is a fact of life in Australia that over 80% of our orchids are terrestrial but for various reasons are little understood by both the growers of native orchids, the general show-attending public and particularly by those who have the political control over the departments responsible for their protection. Herein lies the problem. Of the terrestrials, only a handful have leaves visible all year round and some species flower occasionally without a visible leaf, which compounds the problem as the deciduous nature of all others is their worst enemy. Most non-orchid people fail to see or recognise an orchid leaf and some professional people responsible for environmental assessments of areas proposed for development also fail this test. One example is the listing in one environmental report of *Cryptostylis subulata* and *Cryptostylis* sp. Neither plant was in flower but the paid professional could not tell the difference in leaf type. Either that, or he was too lazy to look at the rear of the leaf. On the site in question the species must have been *C. erecta.*

One other similarly-employed person allegedly walked over 5000 hectares without sighting *Calanthe australasica* and missed several hundred plants easily seen by any person being thorough.

However one of the more concerning problems is the lack of understanding of the needs of those terrestrial species which are listed under a State or Federal environment act. All have a large degree of difficulty as far as cultivation is concerned and are reliant upon a mycorrhizal association for survival, a fact completely foreign to most people. One example came from a submission I was required to present recently to the NSW Planning Assessment Commission. My presentation related exclusively to the requirements of *Genoplesium baueri* and I commenced by stating I would refer to the orchid only by that name and not one of the several common names under which it is known. One member of the general public asked why I would do this and I responded by asking him how many different names he would answer to or to whom his mail was addressed. No response was received. During my 15 minute presentation I referred to the lack of ability to relocate the species in that it was a self-pollinating saprophyte with no permanent sub-surface survival mechanism which could be relied upon to produce a flowering plant each year. Apart from those difficulties, *G. baueri* like most listed species, will flower well only if it is triggered by a rainfall event some weeks earlier. To non orchid people I use this analogy, "many listed species will only flower if they are hit by a shaft of sunlight of each Thursday, following a full moon". At least that makes people think a little more, even if they still fail to comprehend.

The comparison between orchids and other flowering plants is also worthy of mention. One comparison is the Tulip Time Festival held in the NSW Southern Highlands town of Bowral each year. This is a very well known event and attracts large numbers of tourists to see masses of tulips in a wide range of colours in public and private gardens across the district. For decades a great knowledge of cultivation information has been amassed and tourists are guaranteed to see flowering Tulips. However this is where the great divide between orchids and other plants is obvious. As most will know tulips are cold climate plants and the bulbs are kept in a refrigerator at a precise temperature for a precise time period, which will guarantee flowering at 10 am on the day tourists begin to flock to Bowral. Such predictability is not a feature of orchid shows no matter how large or significant they may be or where they are located. I am aware some nursery owners can prepare plants for retail sale with some predictability and this also requires precise conditions but these plants are usually seedling dendrobiums and similar species, not large specimen plants, which would require significantly more room than Tulip bulbs. The range of orchid species and hybrids would also require a multiplicity of conditions, depending of the parentage of many hybrids, particularly the hot/cold *Dendrobium* type.

Cedarvale Orchids

Specialist breeders of
Australian Native Orchid
Species and Hybrids

2013 CATALOGUE
NOW AVAILABLE

See Website for Listing/Or Send SAE
Visit us at upcoming shows
(see website for venue details)
Ross & Rhonda Harvey
16 Heather-Anne Drive
DRAPER QLD 4520
Telephone: (07) 3289 1953
email: cedarvaleorchids@cedarvaleorchids.com
website: www.cedarvaleorchids.com

Another factor is finance and Tulip Time is not only a feature of the local council but the tourism board, a local and state financed body. This money is not and never will be available for orchids and a recent decision by the NSW Government shows where their monetary preferences are focused. The NSW Shooters Party provided two political votes for the government to allow the sale of the electricity generation capacity in NSW and in return was granted the right to hunt in 79 NSW National Parks—an activity categorically denied as likely before the last election. To enable this activity, the Shooters Party have been provided with $19M of taxpayer funding, a sum which will never be available to any orchid body or environmental organisation, including the Office of Environment and Heritage, the body responsible for environmental protection in NSW. I expect the OEH would prefer to have access to all or part of this money. It also makes orchid spotting in NSW national parks a potentially deadly activity.

This is just another aspect to the unpredictability of orchids as it highlights their low ranking on the environmental scale, highlighted by the unpredictability of governments. If any reader fails to see the conservation connection, this article is not merely concerned with the obvious safety concerns regarding normal national park activities but the probability of rare and endangered orchids being trampled by amateur shooters as young as 12 years of age, along with the dogs usually accompanying shooters. No environmental assessment of orchids or anything else will be conducted before a shooting event and again I point to the deciduous and unpredictable nature of terrestrial orchids as being their main feature and their worst enemy.

A Fiftieth Anniversary Special Article

ANOS, Then and Now

A journey across the benching tables

Text by Gerry Walsh (gerry@therocklilyman.com). Photographs by Greg Steenbeeke

It is completely coincidental as I sit down to write this piece for *The Orchadian* in its 50th year of publication, that the following piece of trivial history dawns on me. In October 2012, it was 30 years since I attended my very first meeting of ANOS Sydney Group.

I recall being utterly nervous as I crept into the meeting room at the Ryde School of Horticulture and chose an unobtrusive seat at the very rear of the meeting. It happened to be the AGM of this group and the hall was quite full with no spare seats. I had no way of knowing that the gentleman sitting next to me was the editor of *The Orchadian* at the time, Mr Joe Betts. Joe was never short of words or opinions or suggestions. I had little choice but to fall into conversation with him. Nobody had volunteered for the position as editor of *the Orchidophile*, Sydney Group's monthly bulletin.

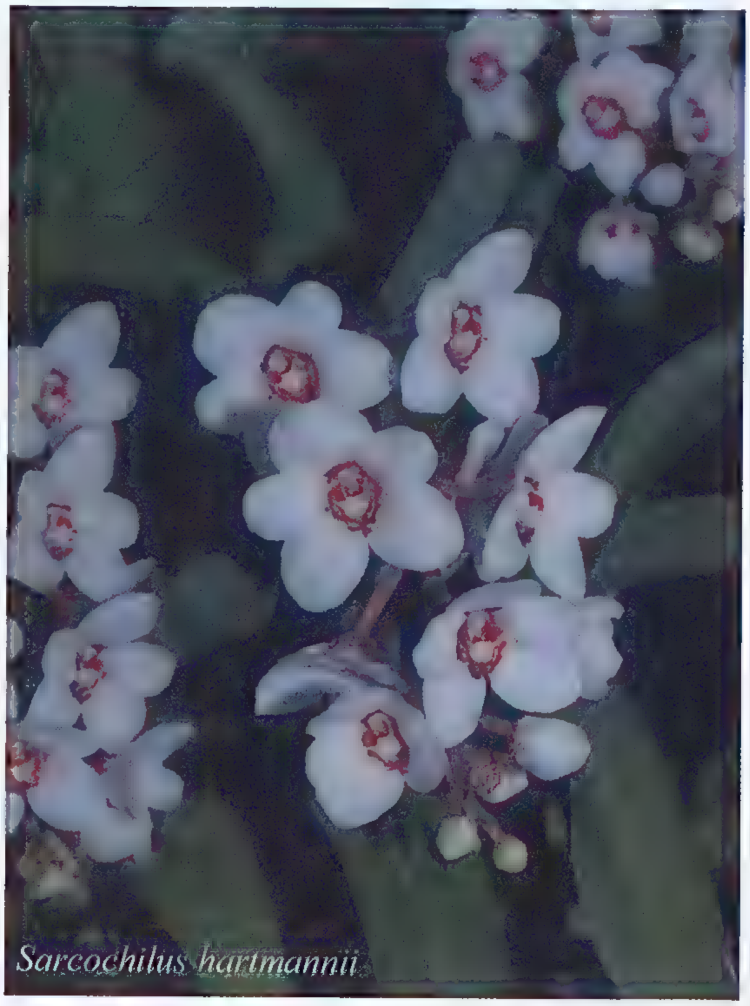
And so it came to pass, to use a biblical expression, that I left that meeting with a station wagon containing boxes of paper, tubes of ink, and a rather large machine called a "Gestetner". This machine was used to print the bulletin. I had never even seen a Gestetner, let alone know how to operate one. For that matter, I had never seen an *Orchidophile* either.

Thanks to Joe's creed of "get the job done at all costs", I was hurriedly volunteered by him to a room filled with people I had never met, to accept the position as Editor of *the Orchidophile*. It didn't seem to deter Joe that I was babbling protests in his ear hole. He parachuted me into the job with a baptism of fire. Joe has now passed on. If you can hear me Joe, I offer you thanks for your confidence and your demonstration of negotiation skills! It was indeed a memorable night.

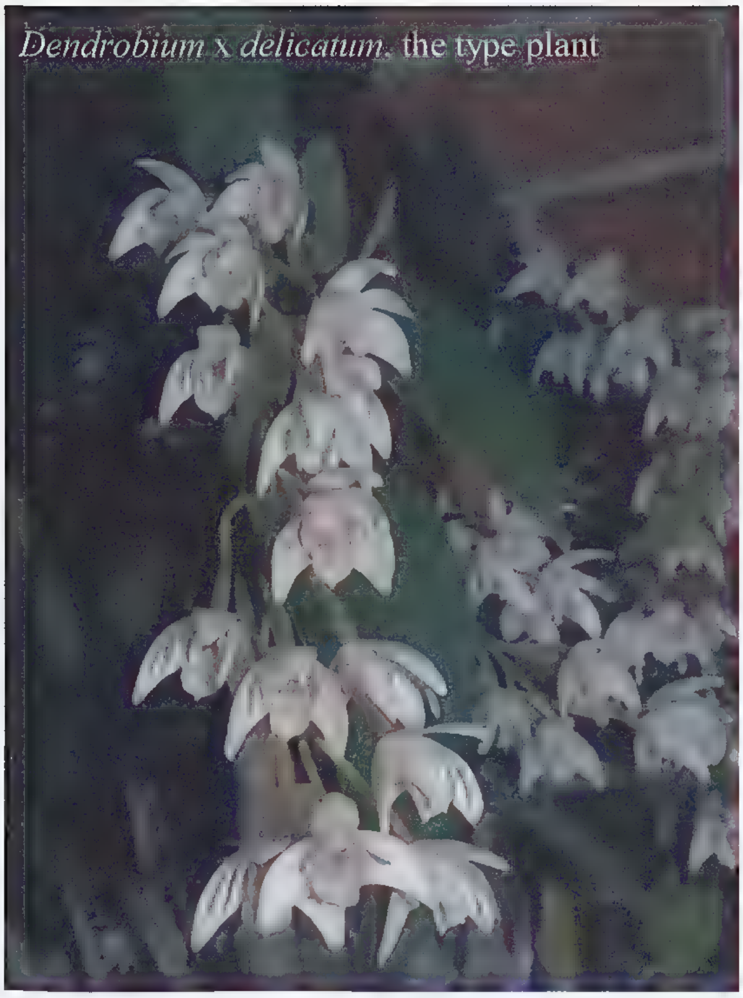
The other memorable thing about that night was the wonderful array of native orchids on the bench. My knowledge of native orchids was not great and I was totally self-taught. My experience with natives was six years long and came from numerous excursions into the bush and frequent visits to the local library to study the textbooks of Nicholls and Dockrill.

On the bench that night there were so many species I had not seen in the flesh. I wasn't even certain which species most of them were. I was mesmerised by seeing about a dozen specimens of *Sarcochilus hartmannii* and a couple of *S. fitzgeraldii* plants. There were also bulbophyllums and terrestrials. Most exciting for me were the big specimen plants of native dendrobiums, which at that time included all the species we now place into the genus *Dockrillia*. The benches were screaming with species native orchids.

In one corner there were some *Dendrobium* plants I didn't recognise at all. It turned out that these were "hybrids". There were perhaps three



Sarcochilus hartmannii



Dendrobium x *delicatum*. the type plant

specimens of *D.* Ellen and another was called *D.* Bardo Rose. As well, there was one large pot of *D. X delicatum* and it was stunning. There may have been others. These hybrids took up a spot not much larger than a card table. They were "pretty", but nothing captured my imagination like the tables filled to the brim with the species epiphytes in full flight.

That was the way it was at all the ANOS meetings thirty years ago. At least 90% of the plants benched were species orchids. Most were well grown, either in pots or mounted on the usual mix of tree fern mounts, cork or old hardwood slabs. Paperbark was also in common usage. Lots of the smaller types were just benched on the natural hosts they grew on in the wild. It was common practice to just bring in a stick with a specimen on it, obviously of wild origin.

Many of these species were freely available in those days. Orchid journals and gardening magazines contained ads with an amazing range of native orchids listed for sale. Mail order suppliers in Qld and NSW were well known and it was quite acceptable for growers to send off a shopping list with a cheque and in a week or so a big box of goodies would be delivered on the doorstep. It didn't seem to matter what species the grower was chasing, he or she could usually track it down. Some "pickers" even collected species from the wild by request.

These practices were common and quite acceptable in those days. It was a by-product of the logging industry in the main. When rainforests were logged there were inevitably a large number of native orchids that would likely die if not collected up. It made good sense to issue licences and collect royalties to the government for the privilege.

Also common in the early days was the selling of plants by landholders in certain districts. Farmers, real ones as well as the "Pitt Street" kind, claimed that land clearing and road building meant the destruction of the epiphytic flora. It was common practice to see signs at farm gates advertising "ferns stags and native orchids for sale". It seemed that anyone who applied for a licence to sell native orchids could get one if they owned a bit of land.

Orchids Australia

OFFICIAL PUBLICATION OF THE
AUSTRALIAN ORCHID COUNCIL
92 Pages
Eye-catching Color

Subscription Rates
$50.00 pa (six copies)

Check out our home page on the internet
http://www.orchidsaustralia.com

Orchids Australia
P.O. Box 329, Mitcham, SA. 5062
Australia
coralie.hills@bigpond.com
(Advise Card Name,
Number and
expiry date)

This lax system was very open to abuse. Several licensed collectors on the NSW north coast became incredibly brazen. One even added a line to his monthly ad in a garden magazine advising that: "*Sarcochilus hartmannii* and *S. fitzgeraldii* now available in unlimited quantities". I kid you not, it ran like that for an entire year.

This also coincided with a local famed colony of *S. aequalis*, or *S. hartmannii* as it was known then, going extinct. I saw this with my own eyes. Where there were once a hundred giant clumps of *Vanda*-like specimens growing, suddenly there were none at all. These used to grow on a few house sized rocks on a hillside where logging was pointless and no road building could be done.

At the "factory" of another dealer in the district, I saw what I would describe as 3 cubic metres of *D. falcorostrum* heaped in a pile as if it had been dumped from a tip truck. This coincided with my observation that three of the biggest specimens of Antarctic Beech trees, in a national park an hours' drive away, had been recently felled. So precise was the logging operation that the trees lay parallel to the access road, only 3 metres from it, and all the *D. falcorostrum* had been levered from the trunk and branches. A chainsaw in the hands of an expert had been used. Gee, what a coincidence.

These examples are an indication of just how pathetic the authorities of the day really were. I have to assume that the species I use in these examples were listed on a Pickers' Licence Application. Antarctic Beech, the only host that *D. falcorostrum* grows on, has been a protected tree species for decades. Were the National Parks or Forestry people of the time so out of touch with this exclusivity that they didn't know, and simply rubber-stamped the licence applications?

In 1986, all rainforest logging in Australia was stopped with the passing of protection laws in Parliament. This single act of Parliament probably did more than any other action to bring the whole sordid Pickers industry to a halt. It was slow to catch on for a few years but it had the desired effect. Without the logging industry to drive it, the destruction of the epiphytic flora of this nation was stopped.

Dendrobium falcorostrum

Because the logging was ended, so too was the construction of roads that gave access to remote forests and waterways for the professional and amateur collectors of the day. The wholesale nurseries disappeared. The signs in rural areas fell down and the orchid world was able to breathe a sigh of relief.

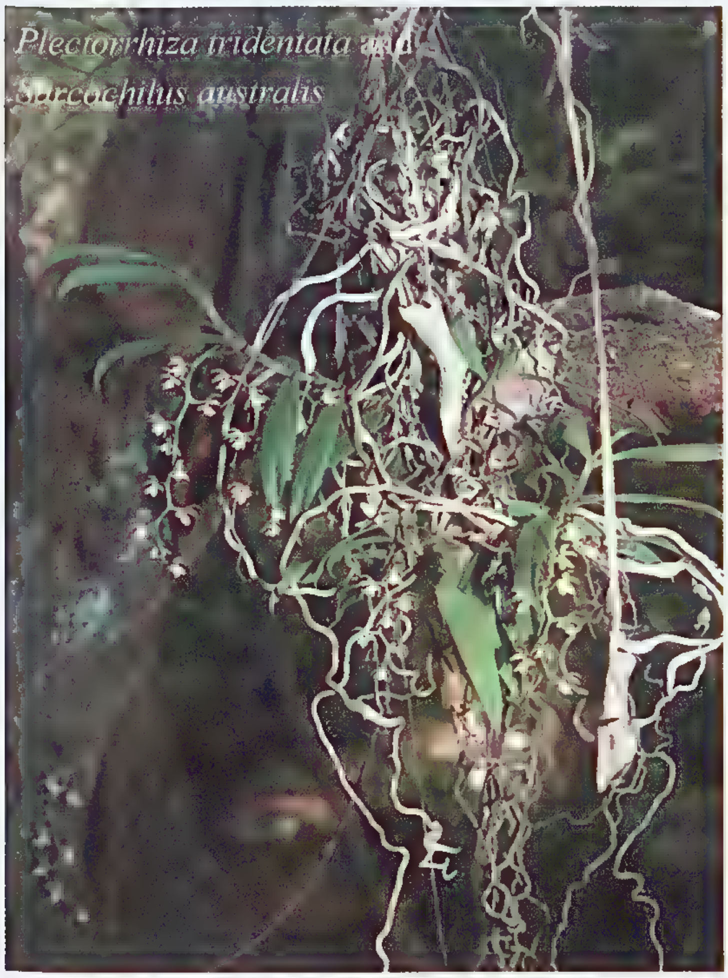
For enthusiasts who came to love our native orchids long after the events I have described, it may be hard to comprehend. However, those of us who remember will think back and just shake our heads at how poor things really were in the "bad old days". Amen.

The negative side is obvious to me and other old dinosaur species growers. The main stream orchid devotee of today wouldn't have a snow ball's chance in hell of naming, or even having heard of, the vast majority of the wonderful species orchids of this great country. They fascinate some growers who often don't really know the names of them. Some don't give a tinkers cuss about them, so that's the other side.

So, what did this all mean to the orchid growers of Australia? Slowly, imperceptibly at first, species sections at monthly meetings and shows became less and less frequented. It became less and less acceptable to bench plants that were still on their natural hosts. Such practices were banned right across the native orchid world. It one way it was sad to see the demise of the massive displays of species orchids we used to have. Change was inevitable however and is indicative of the conservation minded attitude we have today.

Let me go back to the early days of hybrids. In the early 80s, hybrids were a new trend but gaining momentum. Most of them were primary hybrids. Their popularity raced away. Every year there were dozens of new hybrid registrations in the orchid journals. The supply of hybrid plants was easily produced and a whole new frontier became the focus of former species growers.

Gradually, species stopped being the centre point of ANOS shows. Hybrids were evolving and becoming much more desirable. Colour, size and shape were improving and the flowering season was often greatly extended to boot. Hybridisers now ensure that their produce will whet the desires of growers as far into the future as it is possible to see. And it is now hybrids that form the focal point and the wow factor in most of the ANOS shows of today.


Plectorrhiza tridentata and *Sarcochilus australis*

This isn't where it stops. While we don't see the vast number of species we used to, the nursery operators and plant breeders have improved the quality of some species to the point where wild plants can't compete with man made ones at any level. This is particularly true with *D. kingianum, S. hartmannii, S. fitzgeraldii*, and *S. ceciliae*. We have reached the point where anything from a nursery is likely to be superior to anything in the wild. This isn't so noticeable with *D. speciosum*... but even in this case the day will come.

These days a drive through many a state forest reveals, to my eyes at least, more orchid plants than there were 15 or 20 years ago. I am not imagining this. Perhaps my powers of observation are more acute. To offset this possibility, my eyes now need optical assistance. I know some spots were there are now hundreds of orchids where there used to be none a decade back. This is more applicable to the smaller epiphytes, particularly the *Sarcanthinae* members.

A couple of places in the Illawarra where I have camped and swam all my life are now dripping with huge specimens of *Plectorrhiza* and *Sarcochilus hillii*. Seedlings of *S. falcatus* are appearing as well. There never used to be any there at all. As the scrub and the trees mature and fill in the gaps, the orchid flora will return.

With the ending of rainforest logging, the same principle is nurturing suitable orchid habitat, only on a much grander scale than at my old swimming holes. Most importantly, with a far greater interest by growers for hybrids over species, the creeks and the rainforests and the rock faces are being left alone, and these spots are now returning to their former glory. Not everywhere but definitely enough for me to stand by my claim. If you aren't a species grower you won't know this because you won't be in the bush as often as a species grower.

I hope there will always be a place on the benches at meetings and shows for dinosaurs like myself, and one or two others, to present our species. Without them there could never be the vast range of hybrids that we see today. I think it is prudent to keep in touch with the baseline products. There will always be a spot for species orchids. I like looking at hybrids and the improvements in breeding are astronomical. However, for me at least, they will never hold the raw appeal and the sheer respect that I have for the building blocks of what all of us are about... The Australasian Native Orchid Society. Happy Fiftieth Anniversary to us.

The Rock Lily Man

2013 Seedlings - All New - Now!

Your starting point for

Den. speciosum

Gerry Walsh: Grower & Breeder

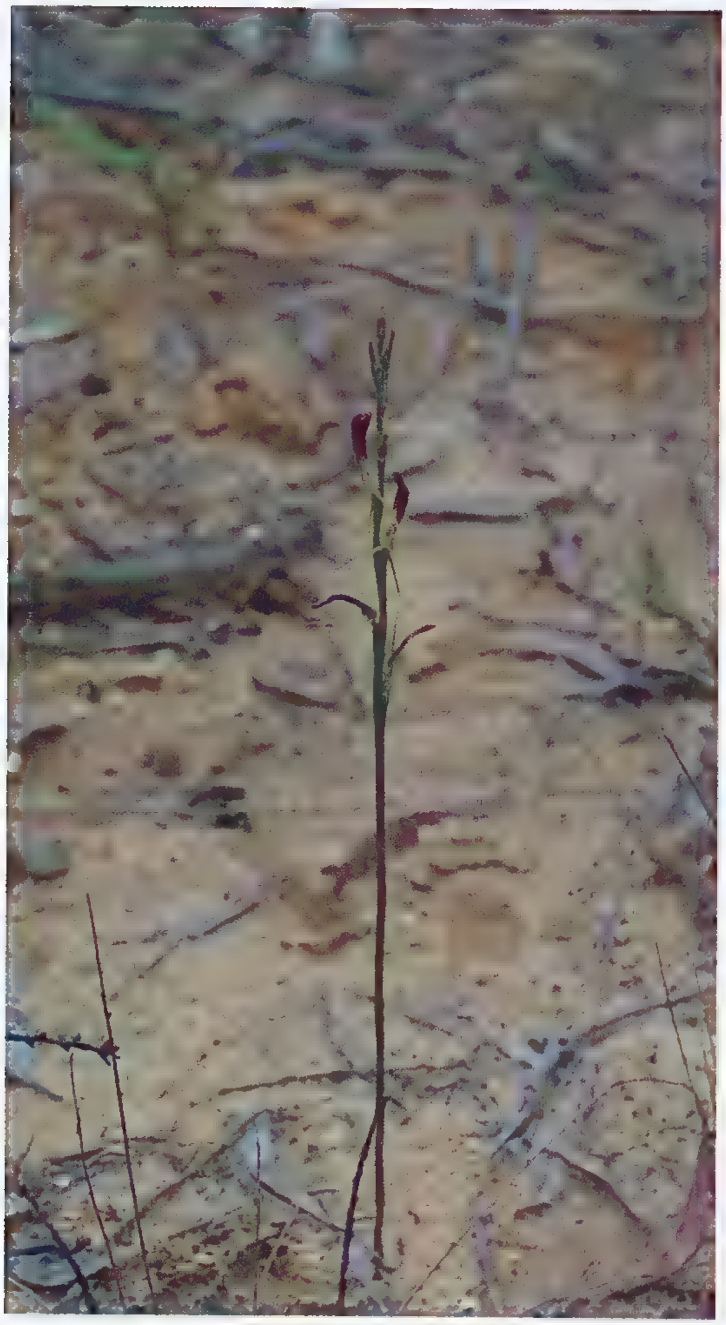
Seedlings, Divisions, Information

www.therocklilyman.com

0247 77 4456

Cryptostylis hunteriana in the Blue Mountains, NSW

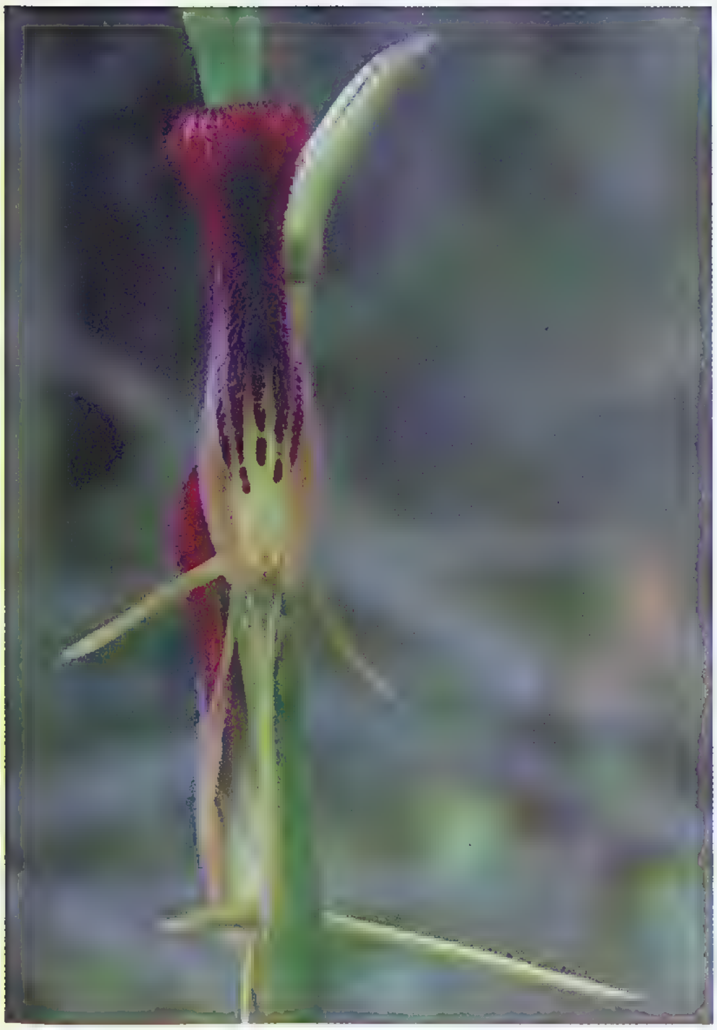
Text by David Banks (david@hillsdistrictorchids.com), photos by Tony Rodgers



The leafless tongue orchid, *Cryptostylis hunteriana* is one of only five Australian species within this genus of wasp-pollinated terrestrial orchids. Four species are found on the east coast of the Australian mainland, with *Cryptostylis ovata* endemic to the south-western corner of Western Australia. *Cryptostylis leptochila* also crosses Bass Strait to occur on Flinders Island, whilst *Cryptostylis subulata* is scarce in Tasmania and the south-east of South Australia. Apparently all species are pollinated by the male Ichneumon Wasp (*Lissopimpla semipunctata*), yet no natural hybrids have been recorded.

I was recently emailed some images by keen bushwalker and native plant enthusiast Tony Rodgers, after a brief conversation at an ANOS Sydney Group meeting, of a plant he believed was the uncommon and rarely seen "Leafless Tongue Orchid".

I have only seen this species in the wild on very few occasions, with all of these sites close to the coast and at low altitude. It has a distribution range from the Hervey Bay region of southern Queensland, south to eastern Victoria. In New South Wales I have seen healthy populations of this saprophytic species at Nelson Bay, and at nearby Alum Mountain, Bulahdelah (growing

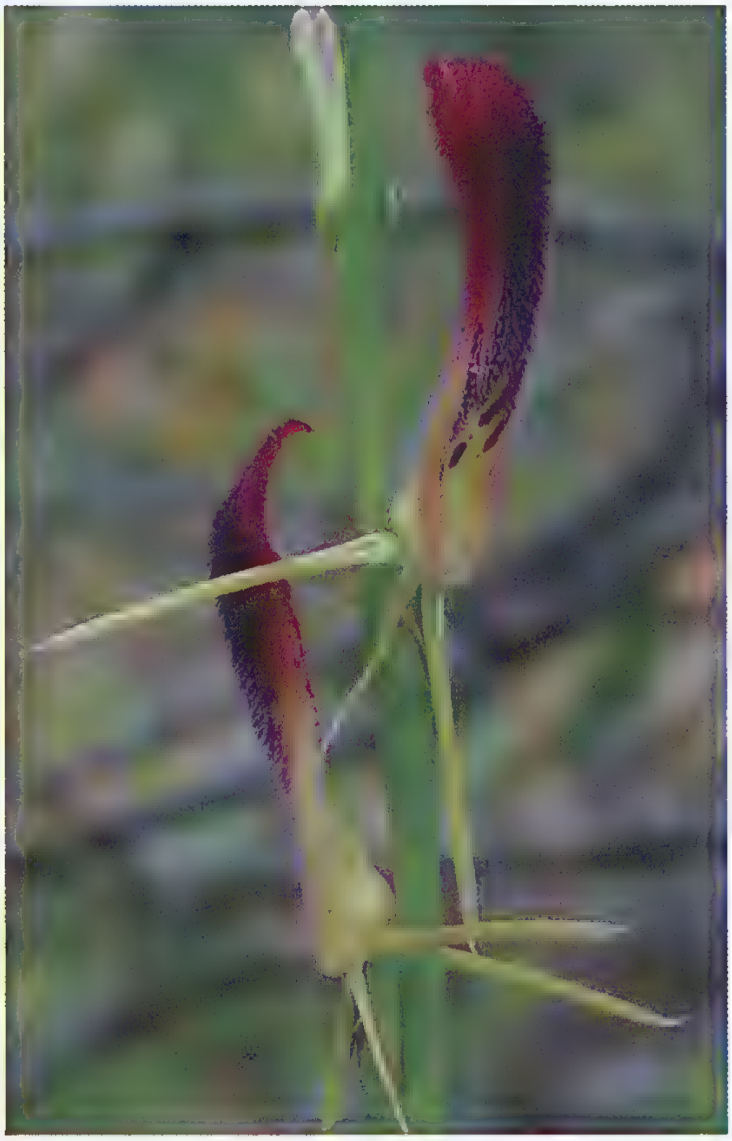


next to a population of the eastern underground orchid (*Rhizanthella slateri*). It has also been found near the Northern Beaches, north of Sydney. It seems to prefer a very sandy soil. I know my friend (and ANOS/AOC Conservation Director) Alan Stephenson has found small and very localised populations in the Nowra region from almost sea level to a site at 600 metres altitude. There are also herbarium records from the Gibraltar Range (~1000m).

The photographs (included here) confirmed the recording of *Cryptostylis hunteriana* at Mount Banks, in the upper Blue Mountains at about 800 metres altitude. It is the first time to my knowledge that this species has been recorded from the Blue Mountains. Indeed it is not even mentioned in Alan Fairley's excellent comprehensive book *Native Plants of the Sydney District*. The late Tony Bishop in his essential *Field Guide to the Orchids of New South Wales and Victoria* refers to it as being a rare species "extending onto the Northern Tablelands but otherwise coastal". I have yet to have it confirmed if there are any herbarium specimens in either Sydney or Canberra.

This recording of *Cryptostylis hunteriana* was made on the 30th December 2009, in mid-summer. Few plant enthusiasts go looking for terrestrial orchids in midsummer due largely to the limited number of species they are likely to encounter, plus safely issues such as oppressive heat and the risk of encounters with venomous snakes – which are abundant in these parts!

Mount Banks is an excellent site for terrestrial orchids (and wildflowers in general) with peak blooming times from winter to late spring. Other terrestrials seen at other times include the leek orchids *Prasophyllum elatum*, *P. brevilabre*, the rare *P. pallens* and the saprophytic *P. flavum*, *Microtis oblonga*, *Diuris sulphurea*, *Orthoceras strictum*, *Eriochilus autumnalis*, *Calochilus paludosus*, *Thelymitra ixioides*, plus various greenhood (*Pterostylis*) species (including an unusual recording of *Pterostylis grandiflora*).



Vale Lester Ratcliffe (16 July 1925 - 31 December 2012)

On 31 December 2012 the Australasian Native Orchid Society (Qld) – Kabi Group Inc. lost a good friend and one of its foundation members, Lester Ratcliffe after a short period of ill health. He was aged 87.

Lester was one of the native orchid enthusiasts at the public meeting called for an evening in April 1991 to investigate the formation of an Australasian Native Orchid Society (ANOS) Group. Lester seconded the motion that an ANOS Group be formed resulting in the birth of what became the Kabi Group.

Lester was an inaugural member of the Kabi Group and was elected to be one of the Councillors on the first Kabi Group management committee. At the General Meeting in May 1991 Lester moved the motion that the Group now be known as the Australasian Native Orchid Society - Kabi Group after the local aboriginal tribe that had inhabited the area and had used native orchids as part of their diet and for medicinal purposes.

At the Management Committee Meeting in May 1991 Lester moved the motion that decided the final incorporated name for the group - i.e. Australasian Native Orchid Society (Qld) - Kabi Group Inc.

At the General Meeting in June 1991 Lester moved the motion that the Group's emblem be the terrestrial orchid ***Diuris sulphurea.***

Lester served on the management committee for many years mainly as the Conservation Officer or a Conservation Sub-Committee Member.

Lester was one of three native orchid identities to be granted permission to conduct the first ANOS Judging Course in Queensland. These three members became the first Queensland ANOS judges in September, 1993. This was the beginnings of the ANOS Inc. Northern Regional Judging Panel.

Lester was a keen bushwalker and loved to look for native orchids in the bush. He and this wife Mavis shared this hobby and combined it with one of photography, having many slides of orchids he found. One of his favourite orchid hunting areas was the Bellthorpe area. Lester was always willing to share his knowledge of this area with members who participated in group bush walks. He has left the ANOS Inc. Northern Regional Judging Panel the legacy of his extensive slide collection.

Lester was a gentle man and a gentleman.

The Kabi Group and the ANOS Inc. Northern Regional Judging Panel are indebted to Lester for their formation.

Thank you Lester.

David James
Deputy Registrar, ANOS Inc.
Northern Regional Judging Panel

Corunastylis carecta (Orchidaceae: Diurideae), a new species from central-eastern New South Wales

David L. Jones[1] and Lachlan M. Copeland[2]
[1]Kalaru, NSW, 2550; [2]Botany, University of New England, Armidale, NSW 2351.

Abstract

Corunastylis carecta D.L.Jones & L.M.Copel., a member of the *Corunastylis sagittifera* complex, is described as new. The new species is considered to be threatened within its restricted distribution in central-eastern New South Wales. Notes on its distribution, habitat, conservation status and distinguishing features are given.

Key words

Corunastylis carecta, *Corunastylis sagittifera*, Orchidaceae, Diurideae, new species, endangered, New South Wales, Australia.

Introduction

Corunastylis sagittifera (Rupp) D.L.Jones & M.A.Clem. is considered to be a complex of taxa distributed from southern Queensland to southern New South Wales. It includes a number of undescribed species one of which is described here as new.

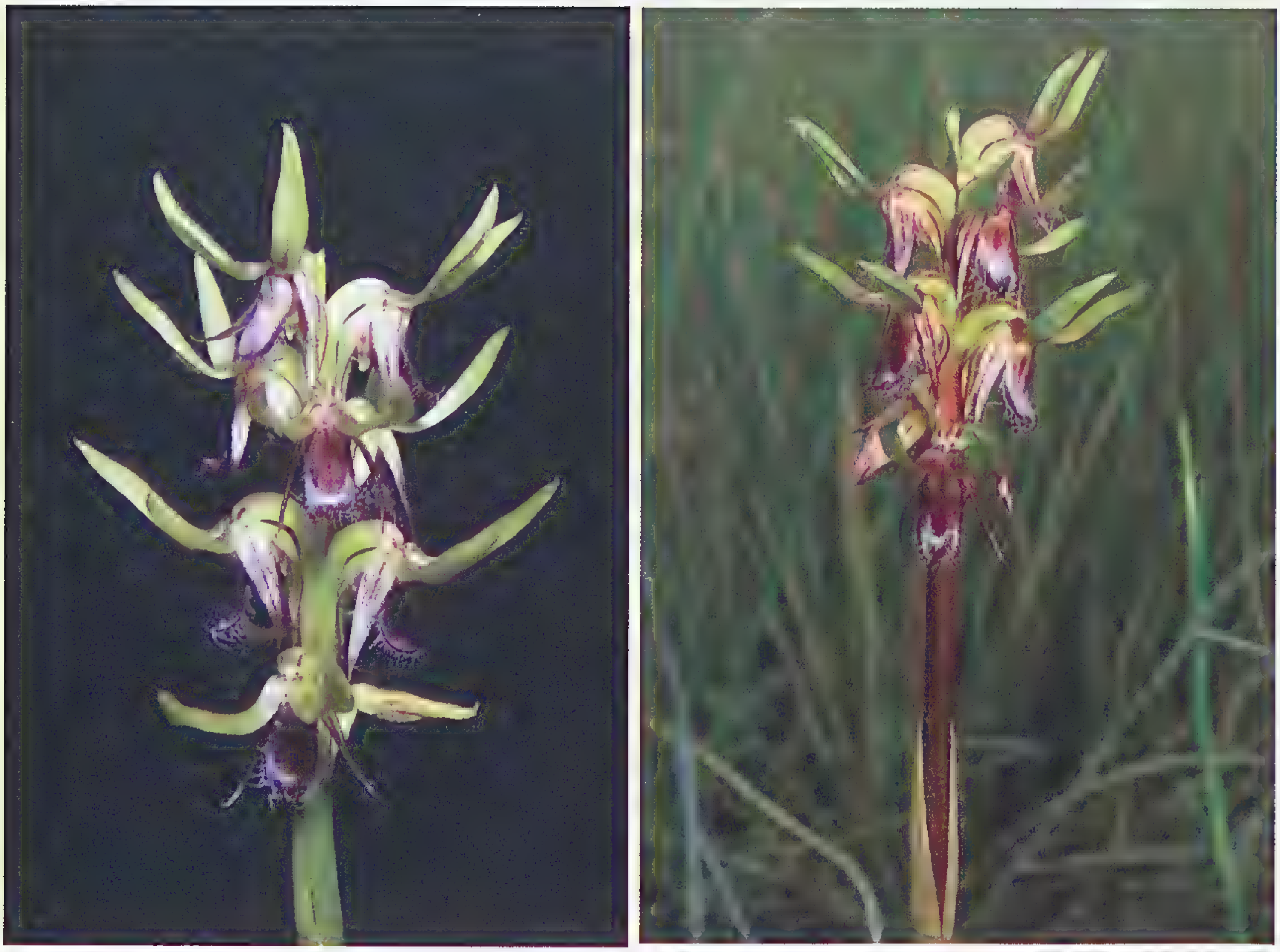
Taxonomy

Corunastylis carecta D.L.Jones & L.M.Copel., ***sp. nov.*** with affinity to *Corunastylis sagittifera* (Rupp) D.L.Jones & M.A.Clem. but differing by being taller growing with larger flowers, longer broader sepals, longer broader petals and a larger elliptical labellum with more numerous longer cilia.

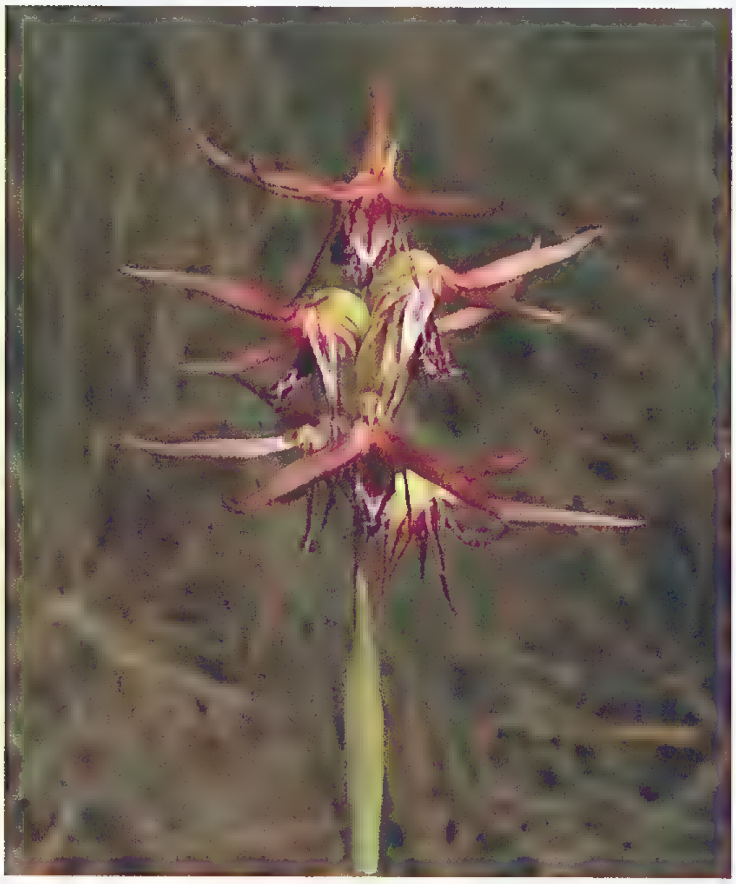
Type: New South Wales: Central Coast: c. 105 km SSW of Singleton along the Putty Rd, 33°10'S, 150°41'E, *L.M. Copeland 4032*, 6 Feb. 2006 (holo CANB; iso NE, NSW). (Precise locality details withheld for conservation purposes).

Illustration: Photo no. 138 in Bishop (2000) as "*Genoplesium* sp. aff. *sagittiferum* (central NSW)".

Description: *Leaf* terete, 10-18cm long, 0.1cm wide, dark green; base reddish; lamina sheathing the scape, subulate, 10-30mm long, c. 2mm wide, ending well below the first flower. *Inflorescence* 12-23cm long, bearing (1-)3-13 flowers in a moderately dense spike 20-35mm long. *Flowers* porrect to semi-deflexed, 7-8mm long, c. 6mm diam., brownish-green with purple lines and markings, purple-red labellum and hairs; lateral sepals porrect to obliquely erect. *Dorsal sepal* cucullate, ovate-lanceolate, 4-4.5mm long, c. 2.2mm wide, deeply concave, with red margins and three red stripes; margins entire; apex acuminate. *Lateral sepals* linear-oblong, 5-5.5mm long, c. 1.2mm wide, not gibbous at the base, divergent; distal margins involute; apex subacute. *Petals* incurved to slightly spreading, narrowly ovate-lanceolate, 3.8-4.2mm long, c. 1mm wide, with red margins and one red central stripe; margins entire; apex long-acuminate. *Labellum* hinged by a short claw, semi-deflexed, not mobile in a breeze, purplish red, margins darker. *Lamina* narrowly elliptic to elliptic, c. 4mm long, c. 1.5mm wide, thin-textured, sharply recurved at the apex; margins with numerous short (0.3-0.9mm long), coarse, spreading, purple cilia; apex acuminate. *Labellum callus* occupying about half the ventral surface of the lamina, extending nearly to the labellum apex, purple, colluviate, thickest and broadest just above the base then drawn out to the apex. *Column* c. 2.4mm long, c. 1.2mm wide, whitish to reddish. *Column foot* ligulate, c. 0.5mm long, the apex incurved. *Column wings* scarcely notched, oblong, acute, entire, curved, the anterior margins coarsely and irregularly ciliate; cilia to c. 0.5mm long. *Anther* c. 1mm long, with a filiform rostrum c. 0.4mm long. *Pollinarium* c. 1.5mm long; *pollinia* c. 1mm long, yellow, coarsely granular; *caudicle* c. 0.5mm



Corunastylis carecta - photos of plants *in situ*, various populations, showing variations. All photographs by Lachlan Copeland.



AUSTRALIAN DECIDUOUS TERRESTRIAL ORCHIDS

Available as….
Bare root plants: May – August
Dormant tubers: November – February

Easily grown species and hybrids from a range of genera including: *Caladenia, Chiloglottis, Corybas, Cyrtostylis, Diplodium, Diuris, Microtis, Pterostylis* and *Thelymitra*.

NESBITTS ORCHIDS
PO BOX 72
WALKERVILLE, SOUTH AUSTRALIA 5081
Phone: (08) 8261 1550
Email: lesn@adam.com.au

long; *viscidium* c. 0.3mm wide. *Stigma* elliptic, c. 0.8mm long, c. 0.5mm wide. *Capsules* not seen. **Fig. 1.**

Distribution: Known with certainty from three populations along a 12km stretch of the Putty Rd in the Mellong Range, c. 40-50km north-west of Sydney (see notes). The two northerly populations are in Wollemi National Park while the type population occurs on leasehold land just outside the Park boundary.

Habitat: *Corunastylis carecta* grows exclusively in swampy habitat dominated by low shrubs and graminoids such as *Banksia marginata*, *Melaleuca thymifolia*, *Leptocarpus tenax*, *Schoenus* sp., *Lepyrodia* spp. and *Aristida* sp. The substrate is a moist, peaty loam derived from sandstone while the altitude ranges from 320-340m above sea level (photograph on back cover).

Recognition: The new species is characterised by an early flowering period, swampy habitat, moderately tall habit, and moderately large flowers, with an elliptical very hairy labellum.

Notes: Bishop (2000), in his treatment of this species under the phrase name of "*Genoplesium* sp. aff. *sagittiferum* (central NSW)", lists this new species as also occurring on the Boyd Plateau. Examination of these plants by John Riley, however, suggest that they are a different species (J. Riley pers. comm.) and we have therefore chosen not to include them under *C. carecta* in this protologue.

Flowering period: Open flowers of *C. carecta* have been observed from November through to February. Like most *Corunastylis* species the flowering period is highly variable each season and appears to be dependent on environment factors such as recent rainfall.

Conservation status: The species is currently known from approximately 60 individuals distributed equally across three populations. Given the abundance of suitable swamps nearby, however, and the inconspicuous nature of the species, it is highly likely that several additional individuals/populations would occur. Two of the known populations are reserved in Wollemi National Park while the third occurs on leasehold land which is currently subject to minimal landuse. Due to its small population size *Corunastylis carecta* should be considered vulnerable and we suggest a ROTAP code of 2VCi following the criteria of Briggs & Leigh (1996).

Etymology

From the Latin *carectum,* a place covered with sedges or rushes.

Additional specimen examined

New South Wales: Central Coast: c. 105 km SSW of Singleton along the Putty Rd, 33°10'S, 150°41'E, *L.M. Copeland 3865*, 4 Dec. 2004 (CANB, NE); Putty Road, Stoney Waterhole, 11 Jan. 1993, *R.Tunstall (D.L.Jones 11158)* (CANB); Putty Road, Kangaroo Waterhole, 11 Jan. 1993, *R.Tunstall (D.L.Jones 11159)* (CANB).

Acknowledgements

We are grateful to the directors of CANB, NSW and NE for allowing access to specimens held within their herbaria. John Riley is thanked for his excellent colour drawing of *C. carecta* and for locality information on this species. We are also grateful to Bill Holzinger for providing additional information on the distribution and habitat of *C. carecta* in Wollemi National Park.

References

Bishop, T. (2000) *Field Guide to the Orchids of New South Wales and Victoria*. 2nd edition. (University of New South Wales Press: Sydney)

Briggs, J.D. & Leigh, J.H. (1996) *Rare or Threatened Australian Plants*, revised edition, (CSIRO: Collingwood).

Accepted for publication April 2nd, 2013.

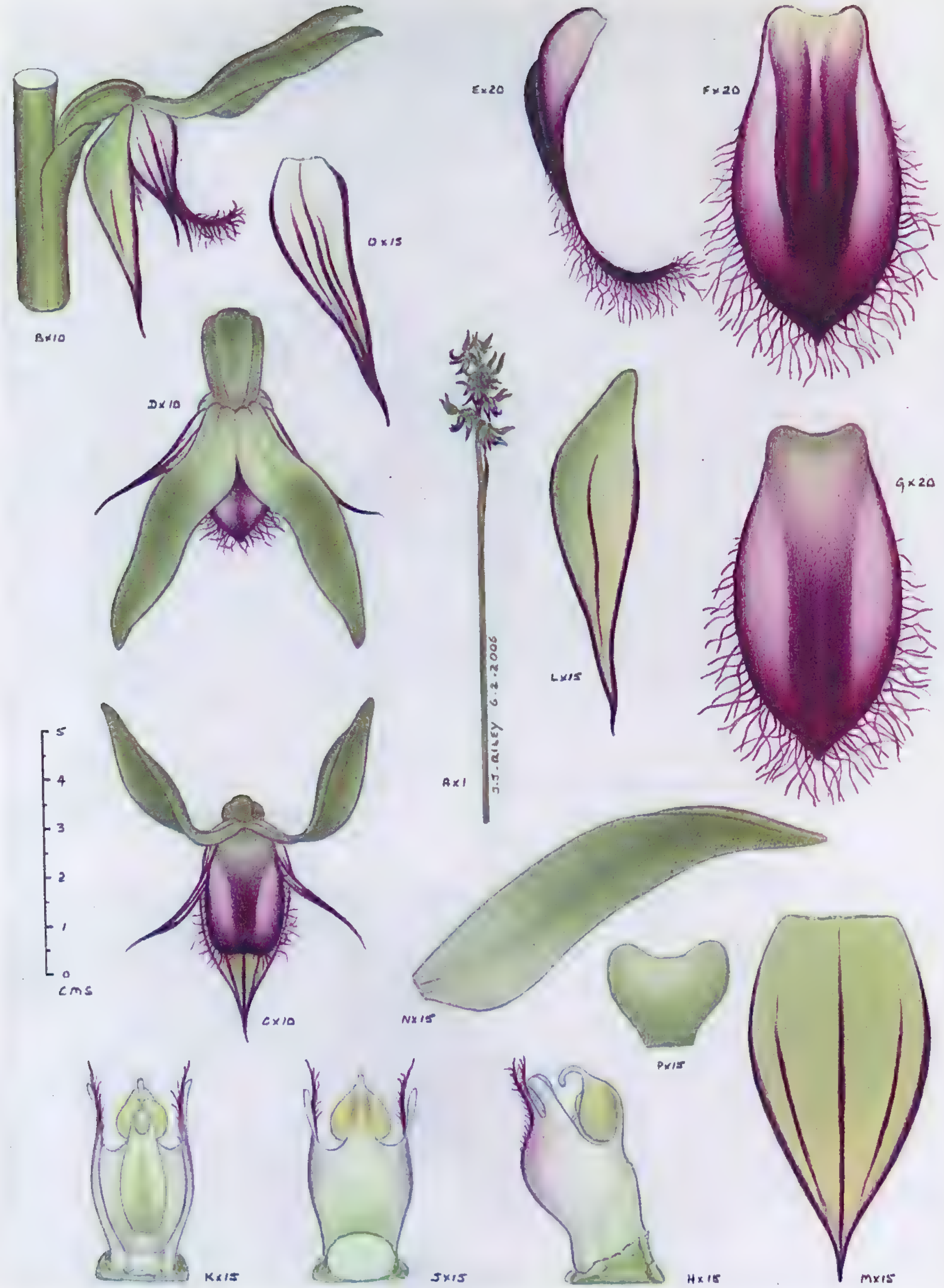
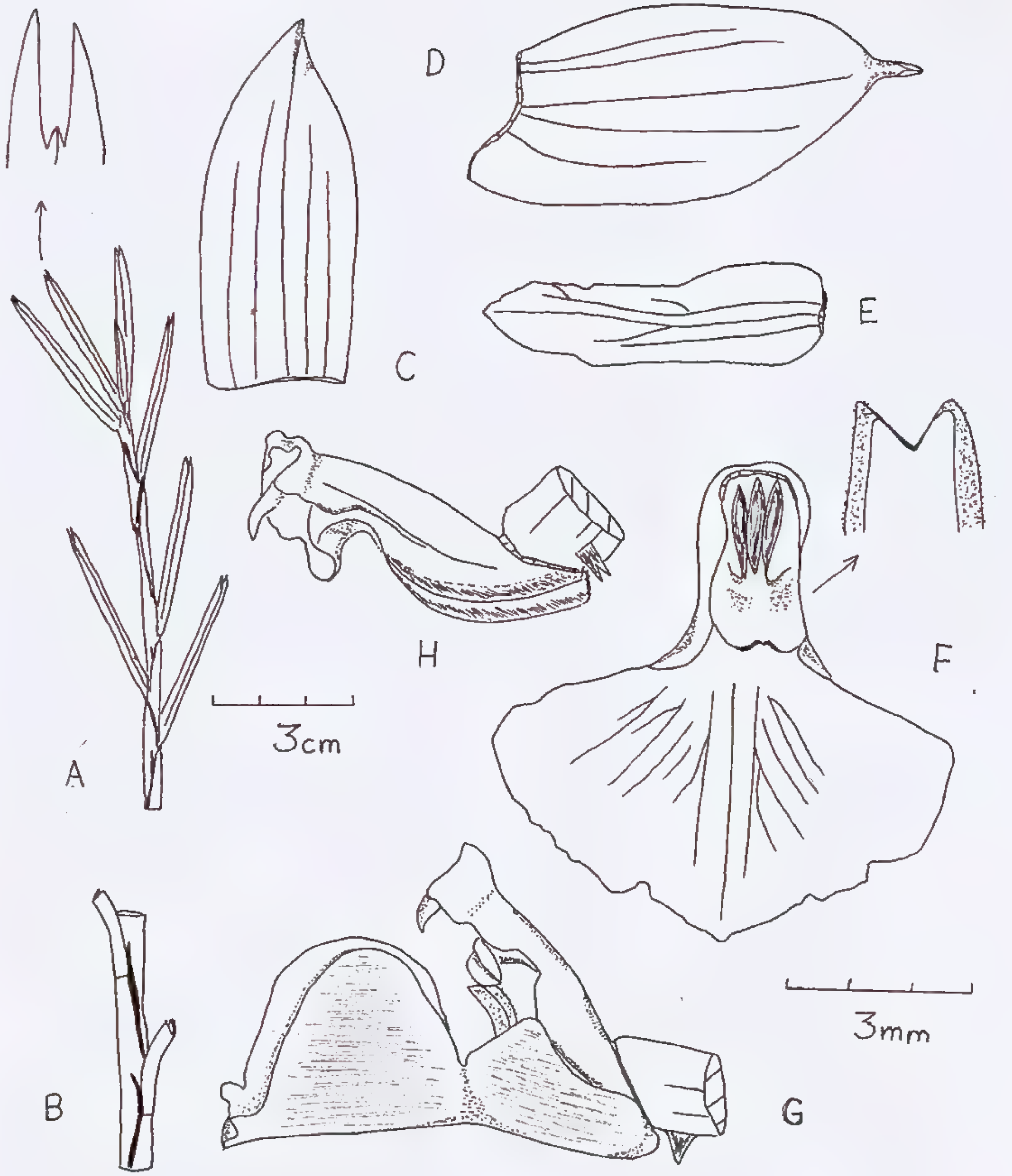
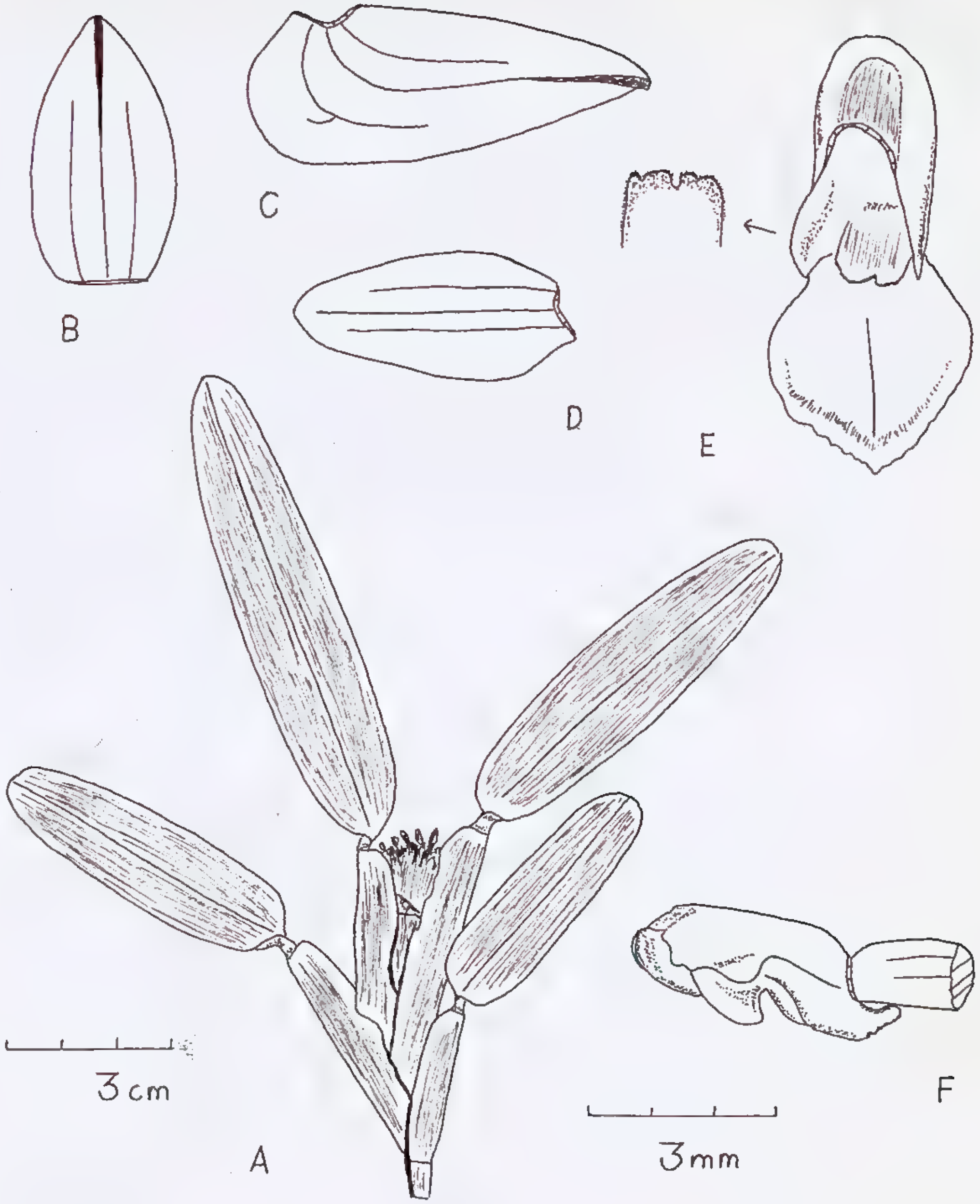


Figure 1. *Corunastylis carecta*, all from L.M. Copeland 4032
A. portion of plant, B. flower from side, C. flower from front, D. flower from above, E. labellum from side, F. labellum from front, G. labellum from back, H. column from side, J. column from front, K. column from rear, L. dorsal sepal side view, M. dorsal sepal flattened, N. lateral sepal, O. petal, P. floral bract. Drawing by John J. Riley, 6 Feb. 2006.



Agrostophyllum arabukanum – A. sterile stem (upper part, leaf tip arrowed); B. stem section; C. dorsal sepal; D. lateral sepal; E. petal; F. labellum (ligula arrowed); G. flower minus tepals; H. column. A and C-G to respective scales. B not to scale. Drawn from holotype.



Agrostophyllum cheirophyton – A. stem; B. dorsal sepal; C. lateral sepal; D. petal; E. labellum (ligula arrowed); F. column. A and B-F to respective scales. Drawn from holotype.

New Species of Papuan *Agrostophyllum* 6

Paul Ormerod, P.O. Box 8210, Cairns 4870, Queensland. Email: wsandave1@bigpond .com

ABSTRACT: Five new species of New Guinean *Agrostophyllum* are described and illustrated. The new taxa are *A. arabukanum, A. cheirophyton, A. gahavisukae, A. montis-jayanum* and *A. yanemense.*

Key words: New Guinea, *Agrostophyllum,* new species.

The description of five new taxa in this paper brings the number of species known from New Guinea up to 75. Four of the new entities belong to the *A. uniflorum* Schltr. (Syn.: *A. biflorum* Ridl.) complex, a group now comprising 18 accepted species. This group may be loosely defined by the presence of slender, multileaved stems, short (2-10 cm long), linear-ligulate to linear-lanceolate leaves, and one to few-flowered inflorescences. In the 20th century this group had only four named members (*A. biflorum* Ridl., *A. montanum* Schltr., *A. oliganthum* Schltr. and *A. uniflorum*) but study of undetermined collections and specimens misidentified as *A. uniflorum* revealed several new taxa. It is however evident from the herbarium material that I have seen that a number of species in this group remain undescribed.

Agrostophyllum arabukanum Ormerod, *sp. nov.*

Type: Papua New Guinea, Morobe Prov., near Arabuka, Arabuka to Saureli, 13 May 1988, *P. Woods 1187,* fl. in cult. 23 September 1988, *RBG Edinburgh 680963* (Holotype: E!).

Affinis A. kairoanum Ormerod *sed aliis ovario deltato-lanceolatis (vs. humilo-deltatis), ligula labello bidentatis (non bicuspidatis) et columna erecto (non recto) differt.*

Epiphytic(?) herb. Rhizome and roots not seen. Stems caespitose, subterete basally, weakly to moderately compressed above, sublaxly foliose, 42.3 cm long, 0.20-0.42 cm wide across sheaths. Leaves linear-ligulate, apex equally to inequally bicuspidate, 26-49 mm long, 2.1-3.o mm wide, tips 1.0-3.5 mm long; leaf sheaths black margined, open down to near apex of next sheath; stipules lanceolate, acute, 2-5 mm long. Inflorescence terminal, composed of several bracts and sheaths, probably successively flowered, producing two flowers at a time on old stems, ca. 10 mm long, 4 mm wide. Ovary with pedicel clavate-subterete, at apex with 2 small, ventral, downward-pointing, deltate to lanceolate, acute (rarely bidentate) winglets, 7 mm long. Flowers white with a yellow spot in centre of lip (epichile?), unscented. Dorsal sepal broadly oblong-lanceolate, acute, weakly carinate in apical third, 5-veined, 5.4 mm long, 2.2 mm wide. Lateral sepals obliquely elliptic, subacuminate, tip shortly carinate, 5-veined, ca. 6.3 mm long, 3 mm wide. Petals obliquely ligulate-lanceolate, acute, 3-veined, 4.9 mm long, 1.5 mm wide. Labellum trilobed, 6.90-6.95 mm long; hypochile shortly retrorse saccate, inside with thick keels, sidelobes oblique, 3 mm long, 1.5 mm wide dorsally; ligula subquadrate, bidentate, minutely papillose on lateral margins, raising 0.9 mm above sidelobes; epichile widely rhombic, weakly trilobulate, 3.9 mm long, 6.8 mm wide, midlobule widely and shortly triangular, 0.9 mm long, 2.1 mm wide. Column obliquely erect to erect, 3.75 mm long (minus anther cap).

Distribution: Papua New Guinea.

Etymology: Named after Arabuka, a village near the type locality.

This species is closely related to *A. kairoanum* Ormerod but differs from it in the ovary having ventral, apical, downward-pointing, acute, deltate (vs. appressed, widely deltate or low triangular, obtuse) winglets, a labellum with a bidentate (not bicuspidate) ligula and an erect (vs. unraised) column.

Agrostophyllum cheirophyton Ormerod, *sp. nov.*

Type: Papua New Guinea, Southern Highlands Prov., Kagua District, near Sumbara Market, Aga, 1550 m, 14 May 1983, *T.M. Reeve 6353* (Holotype: K!; Isotype: LAE).

Affinis A. woitapense Ormerod *sed caulibus brevioribus (6.5 vs. 31.5 cm) et epichilo labello suborbicularis (non late ovato-rhombicis) differt.*

Epiphytic herb. Roots terete, pubescent, to 1 mm thick. Stem slender, compressed, 5-leaved, 6.5 cm long, 0.3-0.8 cm wide, 2.0-3.5 cm wide across sheaths. Leaves oblong, obtuse, shortly petiolate, 28.0-86.5 mm long, 11.5-17.5 mm wide; petiole 1.0-3.5 mm long; leaf sheaths black-margined, 4.0-8.5 mm wide laterally; stipules obliquely deltate, acute to 1 mm long. Inflorescence terminal, composed of several bracts and sheaths, few flowered, ca. 14 mm long, 10 mm wide. Ovary with pedicel terete, 7 mm long. Flowers white, ovary and sepals softly furfuraceous (fide collector). Dorsal sepal ovate-elliptic, subacute, carinate in apical third, 3-veined, 4 mm long, 2 mm wide. Lateral sepals obliquely ovate-lanceolate, subacute, carinate in apical quarter, 3-veined, 5.9 mm long basally (4.5 mm along midvein), 2.3 mm wide. Petals obliquely ovate-oblong, obtuse, 3-veined, 4.9 mm long, 1.9 mm wide. Labellum trilobed, 6.7 mm long; hypochile retrorse saccate, sidelobes truncate, 3 mm long, 1.1 mm wide laterally; ligula subquadrate, truncate-emarginate, minutely papillose-pubescent; epichile suborbicular, acute, concave, 3.7 mm long and wide. Column 3 mm long (minus anther cap).

Distribution: Papua New Guinea.

Etymology: From the Classical Greek *cheir* or *chir,* the hand, and *phyton,* a plant, in reference to the hand-like habit.

This species is most similar to *A. woitapense* Ormerod but differs from it in having shorter (6.5 vs. 31.5 cm) stems, and flowers with a suborbicular (vs. widely ovate-rhombic) labellum epichile.

Agrostophyllum gahavisukae Ormerod, *sp. nov.*

Type: Papua New Guinea, Eastern Highlands Prov., Mt. Gahavisuka, 2250 m, 20 December 1982, *N.E.G. Cruttwell 2226* (Holotype: K!; Isotype: L!).

Affinis A. huonense Ormerod *sed stipulae vaginis longioribus (5 vs. 0.3-1.0 mm), ovario brevioribus (9 vs. 13 mm), petalis angustioribus (1.75 vs. 2.5 mm), ligula labello bicuspidatis (vs. bidentatis) et basi columna valde productum (vs. subproductis) differt.*

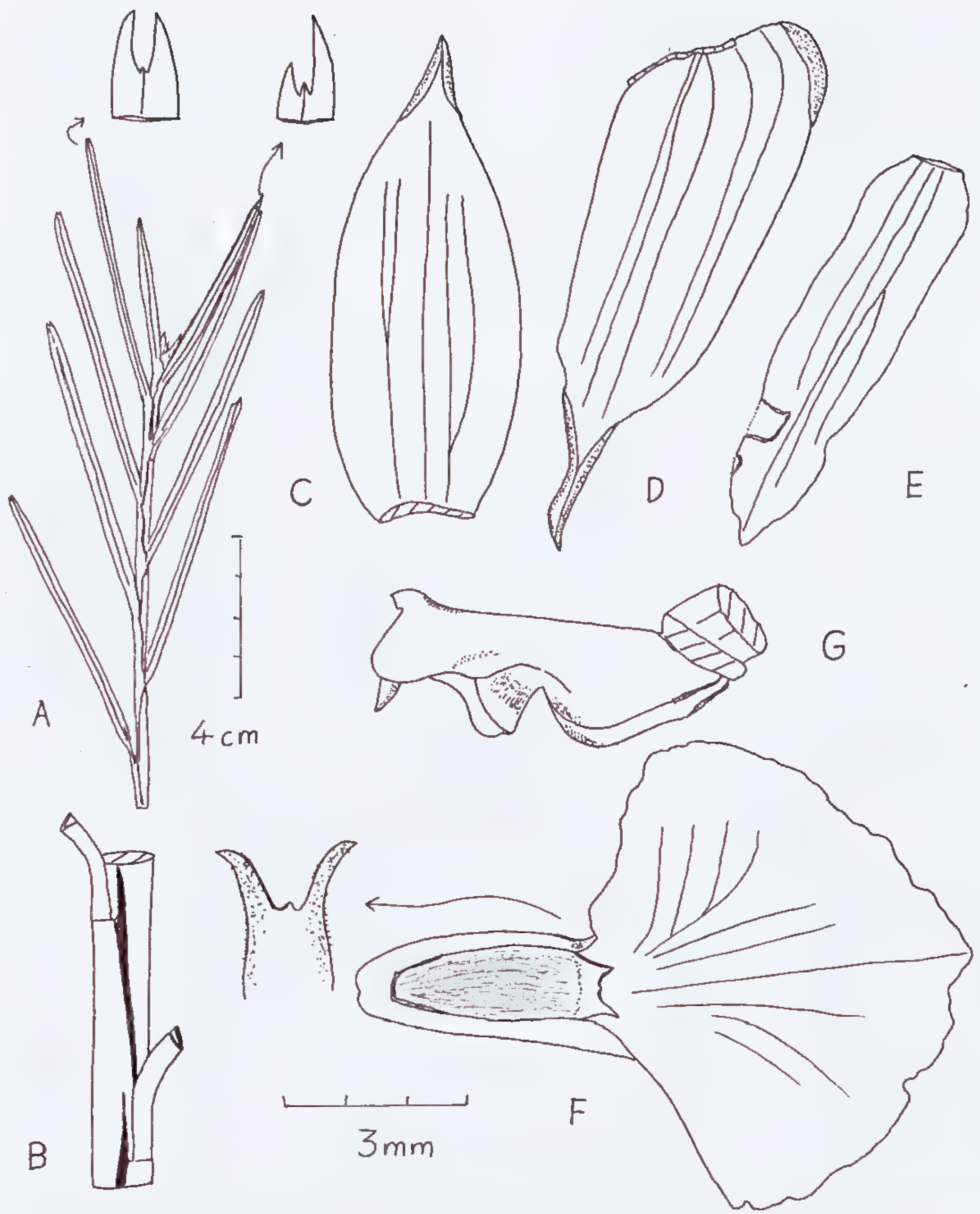
Epiphytic(?) herb. Roots not seen. Stems caespitose, subterete basally, compressed above, sublaxly foliose, 24.7-27.5 cm long, 0.3-0.4 cm wide across sheaths. Leaves linear-ligulate, apex equally to inequally bidentate, obliquely erect, 60-86 mm long, 2.5-3.0 mm wide, tips 0.2-1.0 mm long; leaf sheaths black-margined, open down to near apex of next sheath; stipules lanceolate-subulate, acute, 5 mm long. Inflorescence terminal, composed of bracts and sheaths, probably successively 1-flowered, ca. 15 mm long, 3-5 mm wide. Ovary with pedicel terete, 9 mm long. Flowers white, slightly translucent, lip (epichile?) with yellow patch. Dorsal sepal oblong-elliptic, acute, upper quarter carinate, 3-veined, 7.15 mm long, 2.95 mm wide. Lateral sepals obliquely oblong-elliptic, subacuminate, upper half carinate, 4-5-veined, 8.5 mm long basally (7.9 mm along midvein), 2.95 mm wide. Petals oblong-lanceolate, acute, 3-veined, 6.5 mm long, 1.75 mm wide. Labellum trilobed, 9.2 mm long; hypochile shortly retrorse saccate, sidelobes rounded-oblique, 4 mm long, 1.9 mm wide laterally; ligula subquadrate, bicuspidate, papillose-pubescent, raising ca. 1 mm above sidelobes; epichile widely rhombic, weakly trilobulate, 5.2 mm long, 7 mm wide, midlobule widely and shortly triangular, 1.4 mm long, 4 mm wide. Column obliquely erect, 4 mm long (minus anther cap).

Distribution: Papua New Guinea.

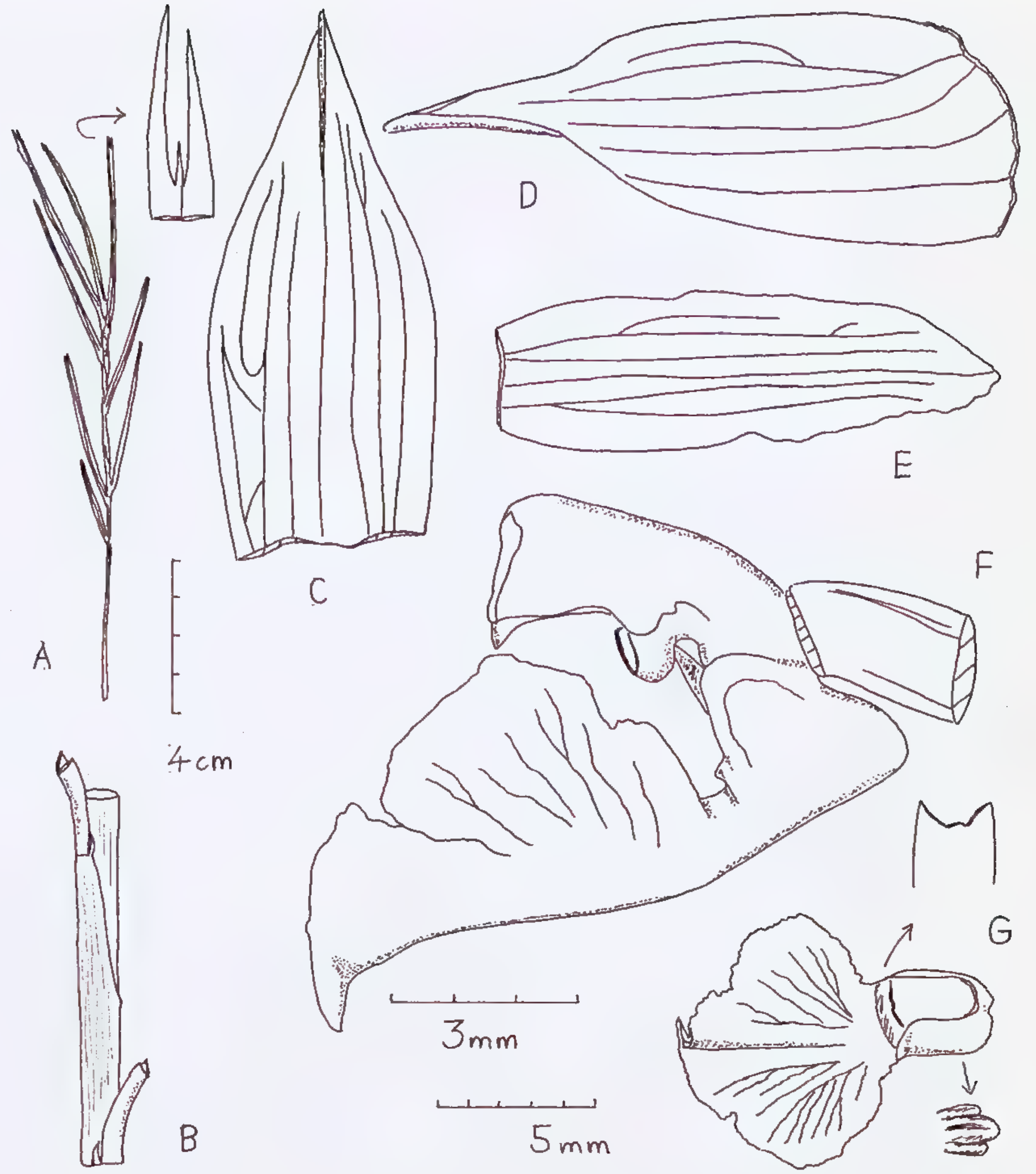
Habitat: Lower montane forest, 2250 m.

Etymology: Named after Mt. Gahavisuka, the type locality.

This species closely resembles *A. huonense* Ormerod but differs from it in the leaf sheaths having longer (5 vs. 0.3-1.0 mm) stipules, a shorter ovary (9 vs. 13 mm), narrower (1.75 vs. 2.5 mm) petals, a bicuspidate (vs. bidentate) ligula, a column with a more produced base, and a half box-like (vs. semi-obconical) substigmatic



Agrostophyllum gahavisukae – A. stem (upper part, leaf tips arrowed); B. stem section; C. dorsal sepal; D. lateral sepal; E. petal; F. labellum (ligula arrowed); G. column. A and C-G to respective scales. B not to scale. Drawn from holotype.



Agrostophyllum montis-jayanum – A. sterile stem (upper part, leaf tip arrowed); B. stem section; C. dorsal sepal; D. lateral sepal; E. petal; F. flower minus tepals; G. labellum (callus and ligula arrowed). A, C-F and G to respective scales. B not to scale. Drawn from holotype.

appendage.

Another similar species to *A. gahavisukae* is the West New Guinean *A. alticola* Ormerod. The latter differs in having shorter (0.2-1.0 vs. 5 mm) leaf sheath stipules, a triquetrous (vs. terete) ovary, wider (2.50-2.75 vs. 1.75 mm) petals, a less produced column base and a much smaller (not prominently exserted) substigmatic appendage.

Agrostophyllum montis-jayanum Ormerod, *sp. nov.*

Type: Indonesia, Papua Prov., Mt. Jaya, Freeport Concession Area, base of heavy equipment access trail, near gauging station, 2600 m, 27 March 1999, *P.J. Edwards et al. 4327* (Holotype: A!; Isotypes: BISH, BO, CANB, E!, K! x2, L!, LAE, MAN).

Agrostophyllum uniflorum auct. non Schltr.: J.J. Wood, in Johns et al., Guide Alp. & Subalp. Fl. Mt. Jaya: 538, 2006.

Affinis A. alticola Ormerod sed foliis angustioribus (1.9-2.1 vs. 3.5-4.0 mm), stipulae brevioribus (0.8-1.0 vs. 1.2-2.0 mm) et appendicibus substigmaticus valde productis differt.

Epiphytic herb. Roots terete, growing back along old stems, 0.75-1.40 mm thick. Stems erect, terete basally, subterete above, forming fascicles of 2-3 stems, sublaxly 8-12 (or more) leaved, 11-12 cm long, 0.10-0.15 cm thick. Leaves linear-lanceolate, apex biaristate, glossy dark green above, subglossy olive-green below, 28-52 mm long, 1.9-2.1 mm wide, tips 2.5-3.1 mm long, mucro subulate, 1 mm long; leaf sheaths closing halfway down internode; stipules lanceolate, acute, 0.8-1.0 mm long. Inflorescence terminal, probably successively 1-flowered, ca. 10 mm long, 6 mm wide. Ovary with pedicel subterete, lime-green, ca. 10 mm long. Flowers pure white, tips very pale cream, base of lip (epichile?) bright yellow. Dorsal sepal ovate-lanceolate, acute, weakly carinate in apical third, 7-veined, 7.9 mm long, 3.4-3.5 mm wide. Lateral sepals obliquely oblong-elliptic, subacuminate, modestly carinate in upper third, 5-veined, 9.2 mm long, 3.5 mm wide. Petals oblong-lanceolate, subacute, 4-5-veined, 7.2 mm long, 2.2 mm wide. Labellum trilobed, ca. 9 mm long; hypochile retrorsely saccate, sac conical, obtuse, sidelobes truncate, ca. 2.75 mm long, 2.75 mm wide laterally, 2 mm wide dorsally; ligula subquadrate, widely bidentate; epichile trilobulate, ca. 6.25 mm long (not including 1 mm long apiculus), 8 mm wide, midlobule transversely oblong, 1.8 mm long, 4 mm wide. Column ca. 4 mm long (minus anther cap).

Distribution: Indonesia (Papua Prov.).

Habitat: Epiphytic on *Schefflera* (in rainforest?), 2600 m.

Etymology: Named after Mt. Jaya, the type locality.

This species is closely related to its West New Guinean congener *A. alticola* Ormerod but differs from it in having more slender stems (1.0 -1.5 vs. 2-3 mm wide across sheaths), narrower (1.9-2.1 vs. 3.5-4.0) leaves, shorter (0.8-1.0 vs. 1.2-2.0 mm) leaf sheath stipules, a more conical (vs. ellipsoid) saccate portion of the hypochile, an unraised (vs. obliquely erect) column, and a much more produced substigmatic appendage.

Agrostophyllum yanemense Ormerod, *sp. nov.*

Type: Papua New Guinea, Morobe Prov., A-mieng (A-mien), on Yaneng (Yanem) River, a tributary of the Buso River, above mouth of Tosapik Creek, 1525-1830 m, 28 March 1941, *M.S. Clemens 12087* (Holotype: US!; Isotype: MICH).

Affinis A. spinuliferum Ormerod ssp. spinuliferum sed caule brevioribus (ad 30 vs. 34.0-41.5 cm), stipulae vaginis brevioribus (4.5-6.0 vs. 6.8-8.3 mm) et midlobulis epichilo subquadratis (vs. transverse oblongo-ellipticis) differt.

Epiphytic(?) herb. Roots terete, pubescent, to 2 mm thick. Stems caespitose (?), terete basally, compressed above, sublaxly foliose, to 30 cm long, 0.175-0.450 cm wide across leaf sheaths. Leaves linear-lanceolate, apex deeply bidentate, obliquely erect, 48-85 mm long, 3.5 mm wide, tips 1-2 mm long; leaf sheaths black-margined, open down to next sheath apex; stipules lanceolate, acute, 4.5-6.0 mm long.

Inflorescence terminal, basally enclosed by 3-4 broad, black-margined sheaths, containing numerous bracts and smaller sheaths, successively 1-3-flowered at a time, to 20 mm long, 8-12 mm wide. Ovary with pedicel subterete, 8.5 mm long. Flowers white. Dorsal sepal broadly oblong-lanceolate, acute, carinate in upper third, 5-veined, 7.3 mm long, 3 mm wide. Lateral sepals obliquely oblong-lanceolate, subacute, carinate in upper half, 5-veined, 8.5 mm long basally (8 mm along midvein), 3 mm wide. Petals obliquely oblong-lanceolate, acute, 3-veined, ca. 7 mm long, 2.2 mm wide. Labellum trilobed, 8 mm long; hypochile shortly retrorse saccate, inside with a thick median keel, sidelobes oblique, ca. 3.5 mm long, 2 mm wide laterally, 1 mm wide dorsally; ligula subquadrate, widely bidentate, papillose-pubescent, raising ca. 1 mm above sidelobes; epichile trilobulate, base with 2 low fleshy thickenings, sidelobules dolabriform, 4.5 mm long, 5.7 mm wide, midlobule subquadrate, ca. 1.8 mm long, 2.4 mm wide. Column semiterete, 5 mm long (minus anther cap).

Distribution: Papua New Guinea.

Specimen examined: Papua New Guinea, Morobe Prov., A-mieng (A-mien), on Yaneng (Yanem) River, a tributary of the Buso River, above mouth of Tosapik Creek, 1525-1830 m, 24 May 1941, *M.S. Clemens 41923* (AMES, US).

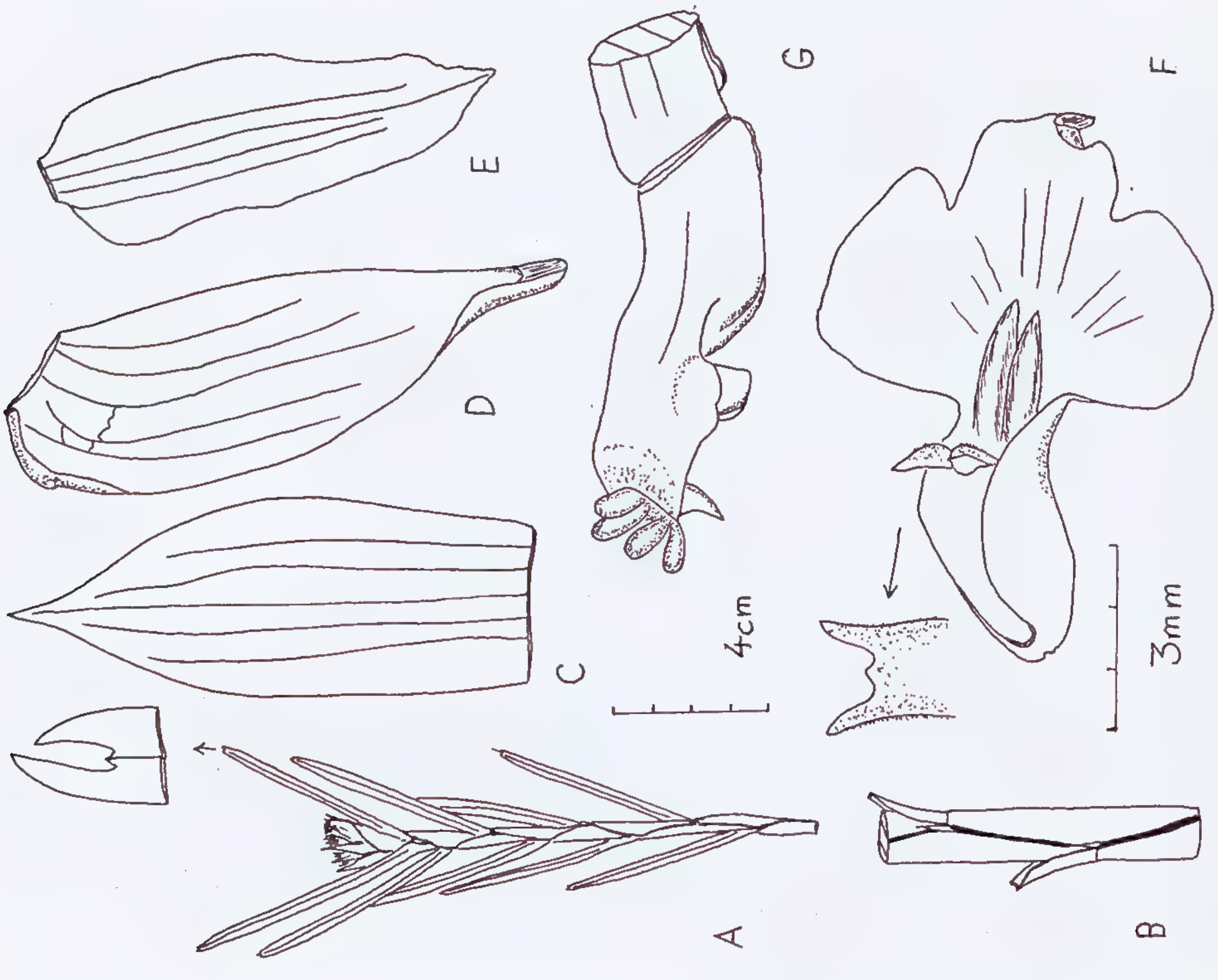
Etymology: Named after the Yanem (or Yaneng) River, which flows near the type locality.

Agrostophyllum yanemense is closely related to *A. spinuliferum* Ormerod ssp. *spinuliferum* but it differs from that taxon in having shorter (to 30 vs. 34.0-41.5 cm) stems, obliquely (not stiffly) erect leaves, leaf sheaths that open right down (not 3/4 of the way) to the next sheath apex, shorter (4.5-6.0 vs. 6.8-8.3 mm) leaf sheath stipules, flowers with broader (2.2 vs. 1.8 mm), oblong-lanceolate (not ligulate-lanceolate) petals, and a subquadrate (not transversely oblong-elliptic) epichile midlobule.

Acknowledgements.

I wish to thank herbarium and library staff at the Harvard University Herbaria (A, AMES, GH) for their help and hospitality during my visits. E, K, L and US kindly loaned specimens for study.

Accepted for publication 18th May 2013.



Agrostophyllum yanemense – A. stem (upper part, leaf tip arrowed); B. stem section; C. dorsal sepal; D. lateral sepal; E. petal; F. labellum (ligula arrowed); G. column. A and C-G to respective scales. B not to scale.

Figures, continued from page 290

Figure 4 - An efficient evaporative cooler	John Allen	357
Figure 5 - Misters are excellent at cooling the hot house	John Allen	358
Figure 6 - Thermostat-controlled gas heater.	John Allen	360
Cryptostylis leaves, showing the reverse side, with the evident differences between *C. erecta* and *C. subulata*	Alan Stephenson	362
Sarcochilus hartmannii	Greg Steenbeeke	364
Dendrobium x *delicatum* (flowers of Type plant)	Greg Steenbeeke	365
Dendrobium falcorostrum	Greg Steenbeeke	366
Plectorrhiza tridentata and *Sarcochilus australis*	Greg Steenbeeke	367
Cryptostylis hunteriana, flowering plant	Tony Rodgers	368
Cryptostylis hunteriana, flower from front	Tony Rodgers	369
Cryptostylis hunteriana, flower from side	Tony Rodgers	369
Lester Ratcliffe		370
Corunastylis carecta - photos of plants *in situ*, various populations, showing variations	Lachlan Copeland	372
Figure 1. *Corunastylis carecta*	Drawn by John Riley	374
Agrostophyllum arabukanum	Paul Ormerod	375
Agrostophyllum cheirophyton	Paul Ormerod	375
Agrostophyllum gahavisukae	Paul Ormerod	378
Agrostophyllum montis-jayanum	Paul Ormerod	378
Agrostophyllum yanemense	Paul Ormerod	380
A selection of covers from issues of *The Orchadian*, from 1963 to 2004		Back cover
Habitat of *Corunastylis carecta*	Lachlan Copeland	Back cover

Shows - Events - Advices

7th ANOS Conference and Show
Strathpine Community Centre, Strathpine QLD
21-25 August 2013

Speciosum Spectacular
31st August—1st September 2013
Greenhill via Kempsey
See advertisement Page 353 this issue.

ANOS Newcastle
Windale Bowling Club, NSW
Spring: 7-8th September 2013
Late Spring: 26-27 October 2013

ANOS Warringah Group
Forrestville Community Hall
Spring Show: 7-8th September 2013

ANOS Illawarra Group
Old Court Building, Harbour St, Wollongong
Spring Show: 14-15th September, 2013
Sarcanthinae Show: 12-13th October, 2013.

ANOS Sydney Group
Spring Show: 14-15th September 2013
Eden Gardens Nursery, Lane Cove Rd, Nth Ryde
Sarcanthinae Show: 19th October 2013
Community Church, Eaton Rd, W. Pennant Hills
50th Anniversary Dinner: 11 October 2013.

ANOS Macarthur
Narellan Town Centre, outside Coles
Spring: 28th September 2013
Late Spring: 26th October 2013

ANOS Victoria
Spring Show: 28th & 29th September 2013.

Melbourne Suburbs
Australasian Native Orchids Spring Show
Lilydale Lake Community Hall (Mel 38 F6)
10am-4.30pm, 5th - 6th October 2013
Late Spring Show
Montrose Primary School (Mel52D7)
10am-3pm, 26 October 2013

DIRECTORY OF A.N.O.S. GROUPS (and Associated Societies)

NEW SOUTH WALES

- **ANOS Central Coast**: PO Box 3010, Erina NSW 2250 - (02) 4343 1809

2nd Wednesday each month, 8pm. Narara Community Centre, 2 Pandala Rd, Narara 2250

- **ANOS Far North Coast Inc**: PO Box 949, Ballina NSW 2478 - (02) 6686 6303

3rd Saturday each month (except December), 2pm. C.W.A. Room, River Street, Ballina.

- **ANOS Illawarra**: 2 Wilford St, Corrimal NSW 2518 - (02) 4284 8308

2nd Tuesday each month, 7pm. Old Court House, Wollongong.

- **ANOS Macarthur and District**: 43 Strickland Cres, Ashcroft NSW 2168 - (02) 4681 8589

3rd Thursday each month, 8pm. Birriwa Community Hall, Fitzpatrick Rd, Mt Annan.

- **ANOS Mid-North Coast**: 69 The Lakes Way, Forster NSW 2428 - (02) 6554 9733.

Last Sunday each month, 12 noon, followed by BBQ. Contact secretary for location—Taree or Wauchope.

- **ANOS Newcastle**: PO Box 4021, Rathmines NSW 2283 - (02) 4975 3729.

4th Thursday each month, 7.30pm. John Young Community Hall, Thomas St, Cardiff.

- **ANOS Sydney Inc.**: 22 Rabaul Ave, Whalan NSW 2770 - (02) 8824 6338.

3rd Friday each month, 8pm. Senior Citizens Hall, B.H. Community Centre, Conie Ave, Baulkham Hills

- **ANOS Warringah Inc.**: PO Box 421, Forestville NSW 2087 - (02) 9943 0474

3rd Tuesday each month, 8pm. Community Hall, Starkey St, Forestville.

NEW ZEALAND

- **ANOS New Zealand Native Orchid Group**: 42 Titiro Moanna Rd, Korokoro, Lower Hutt 5012

QUEENSLAND

- **ANOS Beenleigh Inc.**: PO Box 1130, Beenleigh QLD 4207 - (07) 3805 1973

1st Thursday each month, 7.30pm. Showground Hall, James St, Beenleigh.

- **ANOS Kabi Inc.**: PO Box 424, Aspley QLD 4034 - (07) 3359 5752

2nd Tuesday all months except January, 7.30pm. Bald Hills Memorial Hall, 2126 Gympie Rd, Bald Hills.

- **ANOS Mackay and District Inc.**: PO Box 138, Koumala QLD 4738 - (07) 4950 1065

2nd Thursday each month, Andergrove Community Centre, Celeber Drive, Andergrove.

- **ANOS Townsville Inc.**: 92 Curie St, Wulguru QLD 4811 - (07) 4778 4311

1st Tuesday each month, 8pm. Townsville Orchid Society Hall, Joe Kirwan Park, cnr Bamford Lane and Charles St, Townsville.

- **Native Orchid Society of Toowoomba Inc.**: 106 Umbiram Rd, Wyreema QLD 4352.

1st Friday each month, 7.30pm. Lutheran Church Hall, cnr West and Alderley Sts, Toowoomba.

SOUTH AUSTRALIA

- **Native Orchid Society of South Australia Inc.**: PO Box 565 Unley SA 5061 - (08) 8261 1550

4th Tuesday each month, 8pm. St Matthew's Hall, 67 Bridge St, Kensington

VICTORIA

- **ANOS Geelong Inc.**: 2 Cooper St, Melton South VIC 3338 - (03) 9743 6040.

2nd Wednesday each month, 7.30pm, Uniting Church Hall, Moorabool St, South Geelong.

- **ANOS Victoria Inc.**: PO Box 308, Boronia VIC 3155 - (03) 9387-2771.

1st Friday each month, 8pm. Toorak Uniting Church Hall, 603 Toorak Rd, Toorak (Melways 58 K4)

- **ANOS Melbourne Suburbs Group:** PO Box 169, Bayswater VIC 3153 - 0419 720 355.

4th Wednesday each month, 7.30pm. Montrose Primary School, Leith Rd, Montrose 3765 (Melways 52 D7)

WESTERN AUSTRALIA

- **ANOS Western Australia Inc.**: 27 Maidment Parade, Dalyellup WA 6230 - 0419 901 335.

2nd Monday each month, 8pm. Wilson Community Hall, Braibrise Rd, Wilson.

The Australasian Native Orchid Society Inc.
Products Available

ANOS Awards CD

- $20 plus postage
- CD containing award pictures and fact sheets for each award made by ANOS.

A Checklist of Australian Native Orchid Hybrids—9th Edition (2010)

- Hybrid checklist of all Australian Native Orchid Hybrids

Watercolour Drawings

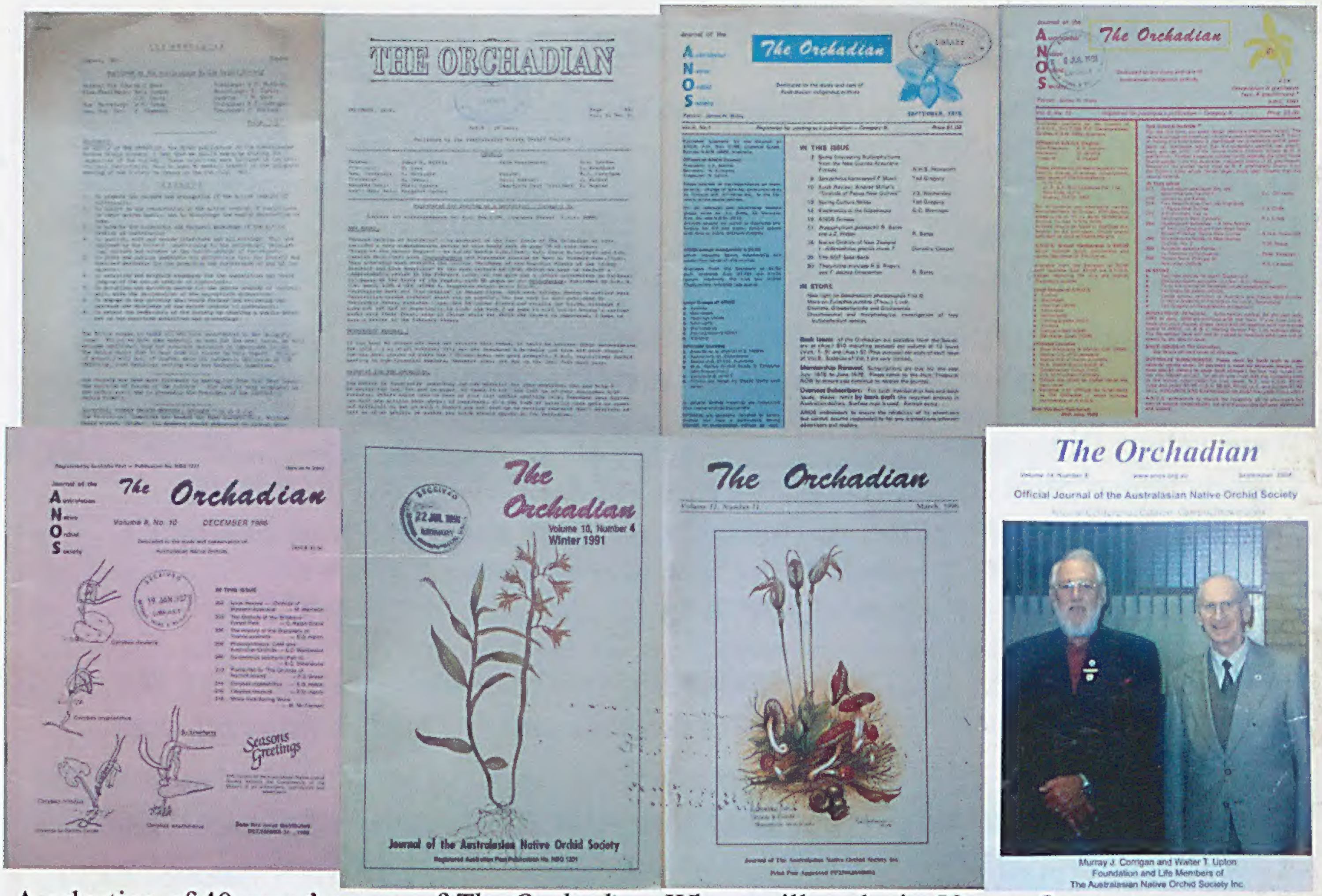
Superb colour prints of J.J. Riley's drawings of Australian Orchids are now available in 3 sets of 8 different species each. **Each set is $15 plus postage**

• **Set 1**	• **Set 2**	• **Set 3**
Pterostylis maxima	*Pterostylis sanguinea*	*Dendrobium moorei*
Dipodium variegatum	*Pterostylis depauperata*	*Lyperanthus nigricans*
Pterostylis daintreana	*Acianthus caudatus*	*Dendrobium bowmanii*
Pterostylis grandiflora	*Caladenia concinna*	*Eriochilus cucullatus*
Cryptostylis erecta	*Chiloglottis truncata*	*Pterostylis vittata*
Genoplesium filiforme	*Dendrobium kingianum*	*Sarcochilus ceciliae*
Diuris lanceolata	*Sarcochilus australis*	*Sarcochilus falcatus*
Rimacola elliptica	*Dendrobium striolatum*	*Cymbidium canaliculatum*

Contact the treasurer with regard to availability of these items and in order to arrange payment.

Meeting Planner: Each row is a week in the month—first at top, fourth at bottom. For instance, Macarthur and Districts ANOS meets on the 3rd Thursday each month.

Weekend	Monday	Tuesday	Wednesday	Thursday	Friday
1st		Townsville		Beenleigh	Toowoomba Victoria
2nd	Western Australia	Illawarra Kabi	Central Coast Geelong	Mackay & District	
Far North Coast (Sat)	*3rd*	Warringah		Macarthur & District	Sydney
Mid-North Coast (Sun)	*4th*	South Australia	Melbourne suburbs	Newcastle	



A selection of 40 years' covers of *The Orchadian*. Where will we be in 50 years?

Habitat of *Corunastylis carecta*, photo Lachlan Copeland